```
July 16, 2002, 07:42:12; Search time 60.37 Seconds (without alignments) 15.917 Million cell updates/sec
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                       283138 segs, 96089334 residues
                                                                  OM protein - protein search, using sw model
                                                                                                                                                                                                                                                 BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                           US-09-165-546A-7
57
1 LLMWITQCFL 10
                                                                                                                                                                           Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                         Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries PIR\_71:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database :

Description	H+transporting AT hypothetical prote conserved hypothet hypothetical prote protein F3M18.12 [ T-cell receptor be conserved hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical l5.2 hypothetical l5.2 hypothetical prote conserved hypothetical prote hypothetical prote phypothetical prote conserved hypothetical prote brain and reproduc TPS3 protein - yea hypothetical prote ES protein - human	succinate dehydrog protein F27J15.18 FC-gamma receptor hypothetical prote NADH dehydrogenase hypothetical prote hypothetical prote glycolate oxidase proline-rich prote hypothetical prote hypothetical prote hypothetical prote
SUMMARIES		
SUMM!	B849430 C82176 T425899 T425899 T425899 T42876 B64765 B64723 B64723 B6723 B6723 B6723 B6723 B6723 B773 B773 B773 B773 B773 B774 B773 B774 B774	C82728 G96527 A34636 S73406 S50336 A83458 T03909 S74338 T09024
DB	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0000000000
% Query Match Length	2,74 4,08 4,08 4,08 1,09 1,09 1,09 1,09 1,09 1,09 1,09 1,09	142 224 224 239 316 380 483 492 577 612
% Query Match		611.4 611.4 611.4 611.4 611.4 611.4 611.4 611.4
Score		
Result No.	1 2 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	20 22 23 24 25 26 27 28

F13K23.18 protein ubiquitin-protein	genome polyprotein conserved hypothet	T-cell receptor ga	receptor	T-cell receptor ga	receptor	receptor	T-cell receptor ga	T-cell receptor ga	T-cell receptor ga	T-cell receptor ga	hypothetical prote	hypothetical prote
A86263 S12332	JQ1621 AB0913	RWMS12 PGMSV1	E26420	G27639	A27639	D27639	F27639	B27639	C27639	E27639	AH1363	T25139
00	- 2		1 (7	7	7	~	7	~	7	7	N	0
974 1950	2103	132	137	138	138	138	139	139	139	139	156	206
61.4	61.4 59.6	59.6	59.6	9.65	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
35 35	35 34	34	34	34	34	34	34	34	34	34	34	34
30 31	33.2 33.2	34	36	37	38	39	40	41	42	43	44	45

# ALIGNMENTS

283138

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

RESULT B84930 B84930 C; Spec C; Date C; Acce R; Acce	RESULT 1 B84330 H+-transporting ATP synthase (EC 3.6.1.34) A chain [imported] - Buchnera sp. (strain C:Species: Buchnera sp. C:Species: B4030 #sequence_revision 02-Mar-2001 #text_change 24-Aug-2001 C:Accession: B84930 B:Shigenbu, S.; Watenabe, H.; Hattori, M.; Sakaki, Y.; Ishikawa, H.
A, Refe	A;Title: Genome sequence of the endocellular bacterial symbiont of aphids Buchnera sp
A, Refe	A;Reference number: A84930; MUID:20445173
A, Stat	A;Accession: B84930
A, Molt	A;Status: preliminary
A, Resi	A;Molecule type: DNA
A, Cros	A;Residues: 1-274 <sto></sto>
A, Cros	A;Cross.references: GB:AP000398; GSPDB:GN00144
C. Gerpe	A;Exerimental source: strain APS
A General Company of the Company of	B; BU002  ly: H+-transporting ATP synthase hydrolase  ch 75.4%; Score 43;
Matc Qy Db	Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0; 1 LIMWITDCEL 10   1   1   1   1   1   1   1   1   1
RESULT S38469 hypothh C; Spec C; Date C; Acce	RESULT 2 838469 hypothetical protein D65 - Desulfurococcus mobilis (fragment) C;Species: Desulfurococcus mobilis C;Date: 13-Jan-1995 #sequence_revision 25-Oct-1996 #text_change 21-Jul-2000 C;Date: 13-Jan-1995 #sequence_revision 85-Oct-1996 #text_change 21-Jul-2000 C;Coccession: 854739; 838469 C;Coccession: 854739; B.; Creti, R.; Sanangelantoni, A.M.; Tiboni, O.; Cammara
Mol. Gel	Mol. Gen. Genet. 246, 687-696, 1995
A;Title	A;Title: Chromosomal organization and nucleotide sequence of the genes for elongation
Obilis.	oblis.
A;Refer	A;Reference number: S54733; MUID:95206243
A;Access	A;Accession: S54739
A;Statu	A;Status: preliminary; translation not shown
A; Mole	A.Molecule type: DNA
A; Resi	A.Residues: 1-65 <ce2></ce2>
A; Cros	A.Cross-references: EMBL:X73582; NID:g410438; PIDN:CAA51989.1; PID:g410444
Quer	Query Match 66.7%; Score 38; DB 2; Length 65;
Best	Best Local Similarity 60.0%; Pred. No. 6.2;
Matc	Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Tue Jul

```
Ritheologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alon Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, E.; Kim, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallo Ker, M.; Wu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome I of the plant Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T-cell receptor beta chain V region (V-beta 26, germline) precursor - human (fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Species: Homo sapiens (man)
C; Date: 16-Feb-1996 #sequence_revision 16-Feb-1996 #text_change 21-Jan-2000
C; Date: 18-Feb-1996 #sequence_revision 16-Feb-1996 #text_change 21-Jan-2000
C; Date: 18820
R; Sightom, J.L.; Siemieniak, D.R.; Sieu, L.C.; Koop, B.F.; Hood, L.
Genomics 20, 149-168, 1994
A; Title: Nucleotide sequence analysis of 77.7 kb of the human V beta T-cell receptor A; Reference number: A54302; MUID: 94292194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cisperies hypothetical protein Atu2439 [imported] - Agrobacterium tumefaciens (strain C; Species: Agrobacterium tumefaciens
C; Species: Agrobacterium tumefaciens
C; Date: 11-Jan-2002 #sequence_revision 11-Jan-2002 #text_change 11-Jan-2002
C; Accession: AE2876
R; Wood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; Wooderage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Levy, R.; Li, M.; McCl; Karp, P.; Romero, P.; Zhang, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:AE005172; NID:g6560764; PIDN:AAF16764.1; GSPDB:GN00141
C;Genetics:
A;Gene: F3M18.12
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
C;Accession: F86410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:U03115; NID:g467918; PIDN:AAA17719.1; PID:g467929 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Introns: 17/1
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: T-cell receptor
F;35-113/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 37; DB 2
Pred. No. 15;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 38; DB 2
Pred. No. 69;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64.9%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66.7%;
55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 64.9
Best Local Similarity 60.0
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Accession: F86410
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-996 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-113 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :||:|:| |
209 VMWLTECHL 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: I38320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene: TCRBV26S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AE2876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Residues: 1-408 <HEI>
A;Cross-references: GB:AE004239; GB:AE003852; NID:99656130; PIDN:AAF94763.1; GSPDB:GN001
A;Experimental source: serogroup O1; strain N16961; biotype El Tor
                                                                                                                                                                                                                                                                                           conserved hypothetical protein VC1609 [imported] – Vibrio cholerae (strain N16961 serogr
                                                                                                                                                                                                                                                                                                                                                                                                                         R;Heidelberg, J.E.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J.; chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragoi, I.; Sellers, F. I. R.R.; Mckalanos, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000
A;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.
A;Reference number: A82035; MUID:20406833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: DNA_A; Residues: 1-478 <MIL>A; Residues: 1-478 <MIL>A; Residues: 1-478 <MIL>A; Cross-references: EMBL:U97550; PIDN:AAB52856.1; GSPDB:GN00028; CESP:T20F7.6 A; Experimental source: strain Bristol N2; clone T20F7 C; Genetics: A; Genetics: A; Greetics: A; Greetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein T20F7.6 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 18-Feb-2000
                                                                                                                                                                                                                                                                                                                  C;Species: Vibrio cholerae
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
C;Accession: C82178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Map position: X
A;Introns: 33/3; 112/2; 144/1; 205/3; 263/2; 300/3; 380/3; 402/2; 451/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 408;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 478;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Accession: T25899
R; Miller, N.; Gattung, S.
submitted to the EMBL Data Library, April 1997
A; Description: The sequence of C. elegans cosmid T20F7.
A; Reference number: Z20107
A; Accession: T25899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 38; DB 2;
Pred. No. 36;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein F3M18.12 [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 38; DB
Pred. No. 32;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66.78;
62.58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%;
62.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 66.7
Best Local Similarity 62.5
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conservative
                                                                        | || :|||
6 LTMWYARCFL 15
                                  1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1:1: |||
345 LVWLAQCF 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |:|| ||:
43 LLWINQCY 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 LAWITOCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 LAWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: C82178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Genetics:
A;Gene: VC1609
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δŏ
                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

 $\sim$ 

ö

Gaps

ö

1; Indels

1; Length 365;

```
C;Genetics:
A;Genetic code: SGC3
C;Superfamily: Mycoplasma hypothetical protein MG255
                                                                                                Score 37; DB 1
Pred. No. 43;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63.28;
57.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 63.2%;
Best Local Similarity 57.1%;
Matches 4; Conservative
                                                                                                Query Match 64.9%;
Best Local Similarity 55.6%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 63.2
Best Local Similarity 57.1
Matches 4; Conservative
                                                                                                                                                                                                   |:|: ||:|
117 LLWLRQCWL 125
                                                                                                                                                                               2 LAWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77 WLSQCFM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77 WLSQCFM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Accession: D58723
                                                                                                                                                                                                                                                                                10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
                                                                                                                                                                                                                                                                                RESULT
D58723
                                                                                                                                                                                                                      셤
                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 9
B64228
hypothetical protein MG255 - Mycoplasma genitalium
C;Species: Mycoplasma genitalium
C;Species: Mycoplasma genitalium
C;Species: Mycoplasma genitalium
C;Decies: Mycoplasma genitalium
C;Decies: Mycoplasma genitalium
C;Dates: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 07-Dec-1999
C;Dates: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 07-Dec-1999
C;Dates: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 07-Dec-1999
C;Dates: 1564228
M;Fuhrmann, J; Nguyen, D.; Utterback, T.R.; Saudek, D.M.; Phillips, C.A.; Merrick, J.
C.A.; Venter, J.C.
Science 270, 397-403, 1995
A;Title: The minimal gene complement of Mycoplasma genitalium.
A;Recession: B64228
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Residues: 1-365 A;TiCR>
A;Cross-references: GB:U39703; GB:L43967; NID:g1045933; PID:g1045946; TIGR:MG255
A;Experimental source: strain G-37
                    A; Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm,
                                        A;Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58. A;Reference number: AB2577; PMID:11743193 A;Accession: AE2876
                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                 A Status: preliminary
A, MoLeoule type: DNA
A, MoLeoule type: DNA
A, Residues: 1.196 (KUR>
A; Cross-references: GB:AE008688; PIDN:AAL43427.1; PID:g17740928; GSPDB:GN00186
A; Experimental source: strain C58 (Dupont)
A; Genetics:
A; Genetics:
                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                              Score 37; DB 2; Length 196;
Pred. No. 25;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Map position: circular chromosome
                                                                                                                                                                                                                                                                                                                  64.98;
66.78;
                                                                                                                                                                                                                                                                                                                Query Match 64.9
Best Local Similarity 66.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 66.7
Matches 6; Conservative
Science 294, 2317-2323, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                   1111:1 1
24 LLMWVTPAF 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26 LLMWVTPAF 34
                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
```

```
hypothetical protein (orf4, cpdA 5' region) - Escherichia coli
C;Species: Escherichia coli
C;Date: 18-Feb-1998 #sequence_revision 20-Feb-1998 #text_change 20-Feb-1998
C;Accession: D58723
R:Imamura, R.; Yamanaka, K.; Ogura, T.; Hiraga, S.; Fujita, N.; Ishihama, A.; Niki, E
J. Blol. Chem. 271, 25423-25429, 1996
A;Title: Identification of the cpdA gene encoding cyclic 3',5'-adenosine monophosphat
A;Reference number: A58723; MUID:96411758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical 15.2 kD protein in icc 3'region - Escherichia coli (strain K-12)
C;Species: Escherichia coli
C;Species: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 08-Oct-1999
C;Accession: E65090
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.;
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617
A;Accession: E65990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:AE000385; GB:U00096; NID:g1789405; PIDN:AAC76067.1; PID:g17894
A;Experimental source: strain K-12, substrain MG1655
C;Genetics:
A;Gene: yqiA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-193 <BLAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 36; DB 2;
Pred. No. 37;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 36; DB Pred. No. 27; 3; Mismatches
                                                                                                                                                                                                                                                                                                     A,Molecule type: DNA
A,Residues: 1-137 <IMA>
A,Cross-references: GB:D16557; NID:g453393
A,Experimental source: strain K-12
C,Genetics:
A,Map position: 68.4 min
                                                                                                                                                                                                                                                                             A; Status: translated from GB/EMBL/DDBJ
```

```
A;Reference number: AB0502; PMID:11677608
A;Accession: AF0889
                                                          A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-193 <PAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-288 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1::||||::
280 LLYITQCYM 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                       4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1::|||:
77 WLSQCFM 83
                                                                                                                                                                                                          A; Gene: STY3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      690368
                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conserved hypothetical protein STX3360 [imported] - Salmonella enterica subsp. enterica (Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi (C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 09-Nov-2001 (S;Accession: AF0889 R;Parkhill, J.; Dougan, G.; James, K.D.; Thomson, N.R.; Pickard, D.; Wain, J.; Churcher, R.; Parkhill, J.; Connerton, P.; Cronin, A.; Davies, R.M.; Dowd, L.; White, N.; Farrar, S.; Moule, S.; O'Gaora, P. Nature (13, 8,8 852, 2001 A;Authors; Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; A;Title: Configete genome sequence of a multiple drug resistant Salmonella enterica serow
                                             hypothetical protein yqiA [imported] - Escherichia coli (strain O157:H7, substrain EDL93 C; Species: Escherichia coli (c; Species: Escherichia coli (c; Species: Escherichia coli (c; Species: 16-Feb-2001 #text_change 14-Sep-2001 (c; Species: 16596) Squeession: F85961 (c; Species: 16596) Squeession: F85961 (c; Species: 16596) Squeeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca, Nature 409, 529-533, 2001 (c) Squeece of enterohemorrhagic Escherichia coli O157:H7. (c) Reference number: A85480; MUID:21074935; PMID:111206551 (c) Reference number: R85963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein ECs3919 [imported] - Escherichia coli (strain O157:H7, substrain RI C; Species: Escherichia coli (5.5pecies: Escherichia coli (5.5pecies: Bs.Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 (5.5pecies: G91118 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 (5.5pecies: G9118 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 #sequence of #sequence of enterchemorrhagic Escherichia coli O157:H7 and gence A; Reference number: A99629; MUID:21156231; PMID:11128796
                                                                                                                                                                                                                                                                                                                                                    A, Status: preliminary
A, Molecule type: DNA
A, Residues: 1-193 <STO>
A, Cross-references: GB:AE005174; NID:g12517609; PIDN:AAG58170.1; GSPDB:GN00145; UWGP:Z43
A, Experimental source: strain 0157:H7, substrain EDL933
C, Genetics:
A, Gene: yqiA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-193 <HAY>
A;Residues: 1-193 <HAY>
A;Cross-references: GB:BA000007; PIDN:BAB37342.1; PID:g13363392; GSPDB:GN00154
A;Experimental source: strain 0157:H7, substrain RIMD 0509952
C;Genetics: A;Gene: ECS3919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 36; DB 2; Length 193;
Pred. No. 37;
3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 36; DB 2; Length 193;
Pred. No. 37;
3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63.2%;
ilarity 57.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 57.1%; 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1::|||:
77 WLSQCFM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77 WLSQCFM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
```

```
C;Accession: G90368
R;She, Q; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Ch
R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Ch
arrett, R.A.; Ragan, M.A.; Sensen, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder
submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
A;Accession: G90368
                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:AE006641; NID:g13815300; PIDN:AAK42206.1; GSPDB:GN00155 C;Genetics: A;Gene: acsA-4
A; Cross-references: GB:AL513382; PIDN:CAD03014.1; PID:g16504259; GSPDB:GN00176 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                       C.Species: Sulfolobus solfataricus
C.Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001
                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein acsA-4 [imported] - Sulfolobus solfataricus
                                                                                                                                                Length 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                             5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5;
                                                                                                                                             Score 36; DB 2
Pred. No. 37;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 36; DB 2
Pred. No. 52;
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search completed: July 16, 2002, 07:48:18 Job time: 366 sec
                                                                                                                                             63.2%;
57.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63.2%;
55.6%;
                                                                                                                                             Query Match 63.2
Best Local Similarity 57.1
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
```

## SEARCH REQUEST FORM



### Scientific and Technical Information Center

reducates a run stante.	· · · · · · · · · · · · · · · · · · ·	Examiner # :	Date:					
Art Unit:	Phone Number 30	Serial Number:						
Mail Box and Bldg/Roon	n Location:	Examiner # :  Serial Number:  Results Format Preferred (circle):	PAPER DISK E-MAI					
If more than one search	h is submitted, please	prioritize searches in order of ne	ed. ********					
Include the elected species or	structures, keywords, synony ie any terms that may have a	I describe as specifically as possible the subj yms, aeronyms, and registry numbers, and co special meaning. Give examples or relevant laims, and abstract.	ombine with the concept or					
Title of Invention:								
Earliest Priority Filing D								
		formation (parent, child, divisional, or issued pa	tent numbers) along with the					
appropriate serial number.								
appropriate serial number.								
appropriate serial number.								
appropriate serial number.								

Jan Delāval Reference Librarian Biotechnology & Chemical Library CM1 1E07 - 703-308-4498 jan.delaval@uspto.gov

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Scarcher:	NA Sequence (#)	STN
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#)	Questel/Orbit
Date Searcher Picked Up: 11.0100	Bibliographic	Dr.Link
Date Completed:	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet
Online Time:	Other	Other (specify)

PTO-1590 (8-01)

## SEARCH REQUEST FORM

#### Scientific and Technical Information Center

•	Scientific and Te	ennical information Center	
Requester's Full Name:		Examiner # :	Date:
Art Unit:	Phone Number 30	Examiner # : Serial Number:	Livate.
Mail Box and Bldg/Roon	Location:	Results Format Preferred (circle):	PAPER DISK E-MAIL
If more than one search	n is submitted, please p	rioritize searches in order of ne	ed.
Please provide a detailed state Include the elected species or	ment of the search topic, and d structures, keywords, synonyn e any terms that may have a sp	lescribe as specifically as possible the subjust, acronyms, and registry numbers, and coecial meaning. Give examples or relevant	ect matter to be searched.
Title of Invention:			
Inventors (please provide fu	ll names):		
Earliest Priority Filing Da			
*For Sequence Searches Only* appropriate serial number.	Please include all pertinent info	rmation (parent, child, divisional, or issued pa	tent numbers) along with the
	,	Jan Belayal Reference Libraria Biotechnology & Chemical CM1 1E07 – 703-308-4 ;an.delaval@uspto.go	Library 498
STAFF USE ONLY		*******	
Searcher:	Type of Search		
Searcher Phone #:	NA Sequence (#)  AA Sequence (#)	ル	
Searcher Location:		Dialog	
Date Searcher Picked Up:	Structure (#)		
1:	102	Dr.Link	
Date Completed: Searcher Prep & Review Time:			
	rumext	Sequence Systems	

Patent Family

Other

20

WWW/Internet

Other (specify)

Clerical Prep Time:

Online Time: \_\_\_

À

```
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
OM protein - protein search, using sw model
```

Run on: July 16, 2002, 07:47:02 ; Search time 32.19 Seconds (without alignments) 12.028 Million cell updates/sec

Title: US-09-165-546A-7
Perfect score: 57
Sequence: 1 LLMWITQCFL 10

Sequence: 1 LLMWITQCFL 10
Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Gapup 10.0 , Gapext 0.5 Searched: 105224 segs, 38719550 residues Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

rimum be sed tength: zoooooooo

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SwissProt\_40:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	P78358 homo sapien	puchn	P47497 mycoplasma		Q91ji5 arabidopsis	Q91ha4 arabidopsis	P38426 saccharomyc	P38850 saccharomyc		mycop]		saccha	P33453 uukuniemi v	P06324 mus musculu		P21974 fowlpox vir		P33361 escherichia	P12392 rattus norv	Q04908 caenorhabdi	088269 rattus norv	095255 homo sapien		homo	homo	homo	mus m	P16645 bacillus su	070129 cavia porce	_	P50903 cavia porce	و	mus n
SUMMARIES	, ai	CTAG_HUMAN	ATP6_BUCAI	Y255_MYCGE	YQIA_ECOLI	VOD1_ARATH	VOD2_ARATH	TPS3_YEAST	YHV4_YEAST	VE5_HPV16	Y060_MYCPN	FCG2_CAVPO	UBR1_YEAST	RRPL_UUK	TVC3_MOUSE	TVC1_MOUSE	DCK1_FOWPV	YRRI_BACSU	YEHY_ECOLI	ACHP_RAT	PSD3_CAEEL	MRP6_RAT	MRP6_HUMAN	IP3T_RAT	IP3T_HUMAN	APR2_HUMAN	CIB3_HUMAN	FOL1_MOUSE	HEMX_BACSU	C5AR_CAVPO	AMSC_ERWAM	LIPP_CAVPO	ACHP_HUMAN	NMBL_MOUSE
	DB	-		н	-	Н	-	-	Н	-	-	Н	Н	-	-	-	-			Н	Н	-	-	-		Н	-	Н	7		-	Н	-	7
	Length	180	274	365	193	351	351	1022	1070	83	299	341	1950	2103	132	135	219	353	385	495	504	1502	1503	2670	2671	114	215	255	276	345	375	465	498	603
dР	Query	100.0	75.4	64.9	63.2	3	63.2	ω,	63.2	ä	61.4	61.4	61.4	61.4	29.6	59.6	29.6	29.6	29.6	29.6	29.6	59.6	29.6	29.6	29.6	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9
	Score	57	43	37	36	36	36	36	m	35.5	35	35	32	32	34	34	34		34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33
	Result No.	г	7	m	4	S	9	7	œ	σ,	10	11	12	13		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).

GLY-RICH. POTENTIAL.

Transmembrane; Antigen. DOMAIN 5 82 TRANSMEM 156 172

EMBL; U87459; AAB49693.1; -.
RMBL; AA003149; CAA05908.1; -. .
EMBL; AF038567; AAD05202.1; -.
MIM; 300156; -.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE-98430682; Pubmed-9759882;

Wang R.-F., Johnston S.L., Zeng G., Topalian S.L.,

Schwartzentruber D.J., Rosenberg S.A.;

"A breast and melanoma-shared tumor antigen: T cell responses to
antigenic peptides translated from different open reading frames.";
J. Immunol. 161:3596-3606(1998).

-: TISSUE SPECIFICITY: EXPRESSED IN TESTIS AND OVARY AND IN A WIDE
VARLETY OF CANCERS. DETECTED IN UTERINE MYOMETRIUM.

-: SIMILARITY: STRONG, TO LAGE-1.

"LAGE-1 a new gene with tumor specificity."; Int. J. Cancer 76:903-908(1998).

09y6r0 homo sapien P48743 saccharomyc O9zpy7 arabidopsis P12683 saccharomyc 000099 ictalurid h 093074 homo sapien P51111 rattus norv P42859 mus musculu P50156 oryza sativ P22578 herpesvirus O51787 pseudomonas P24185 escherichia	TIS	180 AA.	Created) Last sequence update) Last annotation update) Artestis antiqen NY-ESO-1	Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo	[1] SEQUENCE FROM N.A. MEDLINE-97203161; PubMed-9050879; Chen YT., Scanlan M.J., Sahin U., Tuereci O., Gure A.O., Tsang S., Ailliamson B., Stockert E., Pfreundschuh M., Old L.J.; Ailliamson B., Stockert E., Pfreundschuh M., Old L.J.; Pby autologous antibody screening."; Proc. Natl. Acad. Sci. U.S.A. 94:1914-1918(1997).	Smet C., Godelaine D., Serrano A.,
HUMAN VEAST VEAST VEAST HSVII HUMAN ISE ORYSA HSVSC FSEFL	ALIGNMENTS		se upd tion u	niata; arrhin	ndschu expres	Smet
NMBL_HUMAN RFXL_YEAST CSE1_ARATH HMD1_YEAST VG56_HSV11 X192_HUMAN HD_RAT TIPG_ORYSA YDH4_HSVSC PHZA_PSEFIL FDN1_ECOLI	AL]	PRT;	ed) sequence update) annotation updat is antigen NY-ES	; Crar	0879; hin U. Pfreur ntly e	A. ;; PubMed-9626360; S., Michaux L., de
			Created) Last sec Last and	). Chordata; Primates;	ed=9050879 I., Sahin E., Pfre iberrantly screening U.S.A. 94	1=962 naux
609 811 972 1054 1179 21124 3110 250 85 163		STANDARD;	37, Cr 37, La 40, La	chor Prin	PubMed n M.J. nckert gen ab gody s	ubMed Mich
$\sigma\sigma\sigma\sigma\sigma\sigma\sigma\sigma\sigma$		STAN	1. 3 1. 3 1. 4 Can	uman zoa; ria;	.A. 1; P nlan Stoc ntig ntig d. S	.A. ; 2; P S.,
57.9 57.9 57.9 57.9 57.9 57.9 57.9 56.1 56.1			(Rel. (Rel. (Rel.	s (H Meta uthe	OM N 0316 Sca B., ar a us a Aca	FROM N. 1289662 Lucas
2222 2222 2322 2322 2322 2322 2322 232		T 1 HUMAN CTAG_HUMAN P78358:	15-DEC-1998 (Rel. 37, Created) 15-DEC-1998 (Rel. 37, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) 16-OCT-2001 (Rel. 40, Last annotation update)	CTAG.  Homo sapiens (Human)  Eukaryota; Metazoa;  Mammalla; Eutheria;  NCBI_TaxID=9606;	SEQUENCE FROM N.A. SEQUENCE FROM N.A. Chen YT., Scanlan M.J., Sahin U., Tuereci (Willtamson B., Stockert E., Pfreundschuh M., M. Jamson B., Stockert E., Pfreundschuh M., M. Jamson B., Stockert E., Pfreundschuh M., M. Jautologous antibody screening, ", Proc. Natl. Acad. Sci. U.S.A. 94:1914-1918(1)	12) TISSUE=Melanoma; TISSUE=Melanoma; MEDLINE=98289662; Pubmed=9626360 Lethe B., Lucas S., Michaux L., ede Plaen E., Boon T.;
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		RESULT 1 CTAG_HUMAN ID CTAG_ AC P7835				
		K O H A		00000	******	RA RY RA

~

```
2 LMWITQCFL 10
                                                                                                                                                                               NCBI_TaxID=2097;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FIGR; MG255; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YOLA_ECOLI
P36653;
01-JUN-1994 (
01-OCT-1996 (
16-OCT-2001 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                            sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FRANSMEM
                          KESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YQIA_ECOLI

ID YQIA_E

AC P36653

DT 01-JUN

DT 01-OCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                               (BY SIMILARITY).

-!- SUBUNIT: F-TYPE ATPASES HAVE 2 COMPONENTS, CF(1) - THE CATALYTIC COBBUNIT: F-TYPE ATPASES HAVE 2 COMPONENTS. CF(1) HAS FIVE CORE - AND CF(0) - THE MEMBRANE PROTON CHANNEL. CF(1) HAS FIVE SUBUNITS: ALPHA(3), BEAR(3), GAMMA(1), DELTA(1), EPSILON(1). CF(0) HAS THREE MAIN SUBUNITS: A, B AND C (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).

-! SIMILARITY: BELONGS TO THE ATPASE A CHAIN FAMILY.
                                                                                                                                                                                                                                                                     Buchnera aphidicola (subsp. Acyrthosiphon pisum) (Acyrthosiphon pisum
                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                            STRAIN-TOKYO 1998;
MEDLINE-20445173; PubMed=10993077;
Shigenobu S., Watanabe H., Hattori M., Sakaki Y., Ishikawa H.;
Shigenobu S., Watanabe H., Hattori M., Sakaki Y., Ishikawa H.;
Genome sequence of the endocellular bacterial symbiont of aphids
Buchnera Sp. APS.";
Nature 407:81-86(2000).
-i- FUNCTION: KEY COMPONENT OF THE PROTON CHANNEL; IT MAY PLAY A
DIRECT ROLE IN THE TRANSLOCATION OF PROTONS ACROSS THE MEMBRANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00123; ATPASEA.
PROSTIE; PS00449; ATPASE.A; 1.
Hydrogen ion transport; CF(0); Transmembrane; Complete proteome.
TRANSMEM 44 40
                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                   Query Match 100.0%; Score 57; DB 1; Length 180; Best Local Similarity 100.0%; Pred. No. 0.0039; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                               symbiotic bacterium).
Bacteria: Proteobacteria; gamma subdivision; Buchnera.
180 AA; 17992 MW; B122C5C2C8BE1569 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4B2321336EFE78A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2;
                                                                                                                                                                           ATP6_BUCAI STANDARD; PRT; 274 AA. P57118; 16-OCT-2001 (Rel. 40, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) 16-OCT-2001 (Rel. 40, Last annotation update) ATP synthase A chain (EC 3.6.3.14) (Protein 6).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 43; DB Pred. No. 1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPR000568; ATP_synt_A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31363 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AP001118; BAB12730.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00119; ATP-synt_A; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                75.4%;
80.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             110
156
179
212
243
274 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   158 LLMWITQCFL 167
                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T. LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                        NCBI_TaxID=118099;
                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                         ATPB OR BU002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nterPro;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                    RESULT 2
ATP6_BUCAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
S
                                                                                       ô
                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                         ŏ
```

```
entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no wa modified and this statement is not removed. Usage by and for commercia
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
SETAIR—4TCG 3350 / G-37;
MEDLINE-96026346; PubMed=7569993;
Fraser C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A.,
Fleischmann R.D., Bult C.J., Kerlavage A.R., Sutton G., Kelley J.M.,
Flicischmann J.L., Weidman J.F., Small K.V., Sandusky M., Fuhrmann J.L.,
Nguyen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M.,
Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S.,
Peterson S.N., Smith H.O., Hutchison C.A. III, Venter J.C.;
The minimal gene complement of Mycoplasma genitalium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -i - SUBCELLULAR LOCATION: Integral membrane protein (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=ATCC 33530 / G-37;
MEDLINE-94075230, PubMed-e253680;
PETERSON S.N., Hu P.-C., Bott K.F., Hutchison C.A. III;
"A survey of the Mycoplasma genitalium genome by using random
                                                                                                                                                                                                                                        Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes; Mycoplasma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1; Length 365; 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein; Transmembrane; Complete proteome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -> KR (IN REF. 2).
6609C2C8CA2CC5B7 CRC64;
7.255_MYGGE STANDARD; PRT; 365 AA. P47497; Q49289; Q49297; 01-FBB-1996 (Rel. 33, Created) 16-DF-EB-1996 (Rel. 33, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Hypothetical protein MG255.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Rel. 29, Created)
(Rel. 34, Last sequence update)
(Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               193 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 37;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteriol, 175:7918-7930(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [2]
SEQUENCE OF 134-365 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365 AA; 42440 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64.9%;
55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; U39704; AAC71475.1; -. EMBL; U02174; AAD12457.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U02164; AAD12446.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                               Mycoplasma genitalium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              117 LLWLROCWL 125
```

us-09-165-546a-7.open.rsp

77 WLSQCFM 83

g

```
Tue Jul, 16 07:53:05 2002
```

Hypothetical protein yqia. YQIA OR B3031 OR 24388 OR ECS3919.

```
This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

SERVAINCE: TY / RIMD 0509952;

MEDLINE=21156231; PubMed=11258796;

Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K., Ida T., Tahain H., Honda T., Sasakawa C., Ogasawara M., Tobe T., Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunaga T., Kuhara S., Shiba T., Hattori M., Shinagawa H.; "Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7 and genomic comparison with a laboratory strain K-12.";
                                                                                                                                                        SEQUENCE FROM N.A.
STRÖMLAN-KIZ, AMG165;
STRAIN-KIZ, AMG165;
STRAIN-KIZ, AMG167;
PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.,
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Imamura R., Niki H., Yamanaka K., Ogura T., Fujita N., Ishihama A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Genome sequence of enterohaemorrhagic Escherichia coli 0157:H7."; Nature 409:529-533(2001).
                                                                                                                                                                                                                                                                                                                                                                     STRAIN-0157:H7 / EDL933 / ATCC 700927;

MEDLINE-21074955; PubMed-11206531;

Perna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D.,

Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A.,

Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L.,

Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,

Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,

Welch R.A., Blattner F.R.;
                                                                               Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 36; DB 1; Length 193;
Pred. No. 17;
Hismatches 0; Indels
                                                                                                                                                                                                                                                                                              "The complete genome sequence of Escherichia coli K-12."; Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (JUN-1993) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   between the Swiss Institute of Bioinformatics and the the European Bioinformatics Institute. There are no re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   135 137 APD -> GRI (IN REF. 4).
193 AA; 21641 MW; 3077DED58BCOE8A3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; D16557; -; NOT_ANNOTATED_CDS.
EcoGene; EG12186; yqiA.
InterPro; IPR000379; Est_lip_thioest_actsite.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein; Complete proteome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U28377; AAA69199.1; -.
EMBL; AE000385; AAC76067.1; -.
EMBL; AE005533; AAG58170.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63.2%;
ilarity 57.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 1-137 FROM N.A. STRAIN-K12;
                                    Escherichia coli, and Escherichia coli 0157:H7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AP002564; BAB37342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0157:H7 and genomic com
DNA Res. 8:11-22(2001).
                                                                                                               NCBI_TaxID=562, 83334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                               Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hiraga S.
```

```
A Salanoubat M., Lemcke K., Rieger M., Ansorge W., Unseld M.,
Salanoubat M., Lemcke K., Rieger M., Perez-Alonso M., Obermaier B.,
Rattmann B., Valle G., Bloecker H., Perez-Alonso M., Obermaier B.,
Belseny M., Boutry M., Grivell L.A., Mache R., Puigdomenech P.,
A De Simone V., Choisne N., Artiguenave F., Robert C., Brottler P.,
A Wincker P., Cattolico L., Weissenbach J., Saurin W., Ouetier F.,
A Wincker P., Cattolico L., Weissenbach J., Saurin W., Ouetier F.,
A Windhach E., Dizonek H., Erifle H., Jordan N., Bangert S.,
A Windhach E., Dizonek H., Erifle H., Jordan N., Bangert S.,
A Worzi A., D'Angelo M., Pallavicini A., Toppo S., Simionati B.,
A Noraro P., Collado C., Perez-Perez A., Ottenwaelder B., Duchemin D.,
A Navarro P., Collado C., Perez-Perez A., Ottenwaelder B., Duchemin D.,
A Mararse A.C., Alcaraz J.-P., Cottet A., Casacuberta E.,
A Monfort A., Argiriou A., Flores M., Liguori R., Vitale D.,
A Mannhaupt G., Haase D., Schoof H., Rudd S., Zaccaria P., Mawes H.-W.,
A Rooney T., Rizzo M., Walts A., Utterback T., Fulii C.Y., Shea T.P.,
A Rooney T., Rizzo M., Walts A., Utterback T., Fulii C.Y., Shea T.P.,
A Peruss D., Lin X., Nierman W.C., Salzberg S.L., White O., Venter J.C.,
A Samotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Samanto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Idesawa K., Kawashina K., Kahala A.,
A Sasanotto S., Kihnner T., Asamizu E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.lsb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VARIETY OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NATITE 408:820-822(2000).

NATURE 408:820-822(2000).

NATURE FUNCTION: SUBUNIT OF THE INTEGRAL MEMBRANE VO COMPLEX OF VACUOLAR ATPASE. VACUOLAR ATPASE IS RESPONSIBLE FOR ACIDIFYING A VARIETY OF INTRACELLULAR COMPARTMENTS IN BUKARYOTIC CELLS, THUS PROVIDING MOST OF THE ENERGY REQUIRED FOR TRANSPORT PROCESSES IN THE
                                                                                                                                                                                                                                                                                                           Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis. NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ່ວ
                                                                                                                                                16-CCT-2001 (Rel. 40, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Probable vacuolar ATP synthase subunit d 1 (EC 3.6.3.14) (V-ATPase subunit 1) (Vacuolar proton pump d subunit 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBUNIT: V-ATPase is an heteromultimeric enzyme composed of a peripheral catalytic VI complex (components A to H) attached to an integral membrane VO proton pore complex (components: a, c, and d).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              c'' and d).
SIMILARITY: BELONGS TO THE V-ATPASE V0D/AC39 SUBUNIT FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kiyokawa C., Kohara M., Matsumoto M., Matsumo A., Muraki A., Nakayama S., Makazaki N., Shinpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M., Tabata S., Sequence and analysis of chromosome 3 of the plant Arabidopsis
                                                                    351 AA
                                                                                                                                                                                                                                                                                   Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AP000420; BAB02186.1; -.
InterPro; IPR002843; vATP-synt_AC39.
Pfam; PF01992; vATP-synt_AC39; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=CV. COLUMBIA;
MEDLINE=21016720; Pubmed=11130713;
                                                                                                                     16-OCT-2001 (Rel. 40, Created)
                                                                    STANDARD;
                                                                                                                                                                                                                                                     AT3G28710 OR MZN14.21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VACUOLAR SYSTEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
thaliana.
```

Matches

4 WITQUFL 10

ö

Gaps

; 0

3;

```
RA Salanoubat M., Lemcker, R. Rieger M., Ansorge W., Unseld M.,
Ralanoubat M., Lemcker, R. Rieger M., Perez-Alonso M., Obermaier B.;
Ralanoubat M., Lemcker, R. Rieger M., Paches P.,
Belseny M., Boutry M., Grivell L.A., Mache R., Puigdomenech P.,
Ra De Simone V., Choisne N., Arighenave F., Robert C., Buchtier P.,
Ra Wincker P., Cattolico L., Weissenbach J., Saurin W., Quetter F.,
Ra Wincker P., Cattolico L., Weissenbach J., Saurin W., Duetter F.,
Ra Wincker P., Cattolico L., Weissenbach J., Saurin W., Bangert S.,
Ra Wincker P., Cattolico L., Weissenbach J., Saurin W., Bangert S.,
Ra Wincker B., Drzonek H., Erfle H., Jordan N., Bangert S.,
Ra Wincker B., Drzonek H., Erfle H., Jordan N., Bangert S.,
Ra Wincker B., Drzonek H., Fallavicini A., Toppo S., Simionati B.,
Roorad A., D'Angelo M., Pallavicini A., Toppo S., Simionati B.,
Ra Reichelt J., Scharfe M., Schone O., Bargues M., Terol J., Climent J.,
Ra Reichelt J., Scharfe M., Schone O., Bargues M., Terol J., Climent J.,
Ra Marare A.C., Alcaraz J.-P., Cottet A., Casacuberta E.,
Mannhaupt G., Haase D., Schoof H., Rudd S., Zaccaria P., Mewes H.-W.,
Ra Rooney T., Rizzo M., Walts A., Utterback T., Fullio L.J., Jenkins J.,
Ra Preuss D., Lin X., Nierman W.C., Salzerg S.L., White O., Venter J.C.,
Ra Bress C.M., Kaneko T., Nakamura Y., Sato S., Kato T., Asamizu E.,
Ra Samonto S., Kimura T., Idesawa K., Kabhada Y.,
Ra Samonto S., Kimura T., Idesawa K., Kabhada Y.,
Ra Sasanoto S., Kimura T., Idesawa K., Kabhada Y.,
Ra Sasanoto S., Kimura T., Idesawa K., Kabhada A.,
Ra Kivokawa C., Kabarino A., Martsino A., Martsino
                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: SUBUNIT OF THE INTEGRAL MEMBRANE VO COMPLEX OF VACUOLAR ATPASE. VACUOLAR ATPASE IS RESPONSIBLE FOR ACIDIFYING A VARIETY OF INTRACELLULAR COMPARTMENTS IN EUKARYOTIC CELLS, THUS PROVIDING MOST OF THE ENERGY REQUIRED FOR TRANSPORT PROCESSES IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (Mouse-ear cress).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                            Oblant.

16-0CT-2001 (Rel. 40, Last sequence update)

16-0CT-2001 (Rel. 40, Last sequence update)

16-0CT-2001 (Rel. 40, Last annotation update)

16-0CT-2001 (Rel. 40, Last sunctation update)

Probable vacuolar ATP synthase subunit d 2 (EC 3.6.3.14) (V-ATPase subunit 2) (Vacuolar proton pump d subunit 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VACUOLAR SYSTEM.
SUBUNIT: V-ATPase is an heteromultimeric enzyme composed of a peripheral catalytic VI complex (components A to H) attached to an integral membrane V0 proton pore complex (components: a, c,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sasamoto S., Kimura T., Idesawa K., Kawashima K., Kishida Y., Kiyokawa C., Kohara M., Matsumoto M., Matsuno A., Muraki A., Nakayama S., Nakazaki N., Shinpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M., Tabata S.; Sequence and analysis of chromosome 3 of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       c' and d).
- it similarity: belongs to the v-atpase vob/ac39 subunit Family.
                                                                                                                                                              .;
0
                                                                                                         Length 351;
                                                                                                                                                              Indels
  Hydrogen ion transport.
351 AA; 40791 MW; 5E1A67A149AC4EF4 CRC64;
                                                                                                                                                              .
.
                                                                                              DB 7
                                                                                                                                                              2; Mismatches
                                                                                                         Score 36;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=CV. COLUMBIA;
MEDLINE=21016720; PubMed=11130713;
                                                                                                         63.2%;
71.4%;
                                                                                                                                Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature 408:820-822(2000).
                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                  328 LAWISEC 334
                                                                                                                                                                                                                   2 LMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                        V0D2_ARATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      thaliana.
                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                    09LHA4;
                                                                                                                                                                                                                                                                                                                                                                            V0D2_ARATH
SOW
                                                                                                                                                                                                                   ŏ
```

```
between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-0CT-1996 (Rel. 34, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Alpha,alpha-trehalose-phosphate synthase [UDP-forming] 115 kDa subunit [EC 24.1.15) (Trehalose-6-phosphate synthase) (UDP-glucose-glucosephosphate glucosyltansierase).
TPS3 OR YMR261C OR YM8156.03C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-S288C / AB972;
Lye G., Churcher C. M., Barrell B.G., Rajandream M.A.;
Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
-!- CAPALYTIC ACTIVITY: UDP-91ucose + D-91ucose 6-phosphate = UDP +
- alpha,alpha.trehalose 6-phosphate.
-!- SUBGNIT: TREHALOSE SYWTHASE/PHOSPHATASE COMPLEX CONTAINS THREE
-!- SUBGNIT: TREHALOSE SYWTHASE/PHOSPHATASE OF 6 KDa (TPS1), 102 KDa (TPS2), 115 KDa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TPS3) AND 123 kDa (TSL1).
-!- INDUCTION: REPRESSED BY GLUCOSE.
-!- SIMILARITY: CONTAINS A DOMAIN FOUND IN ALL THE PROTEINS OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Manning A.M., Rosenbloom C.L., Beaudet A.L.;
Submitted (JUN-1992) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                           InterPro; IPR002843; vATP-synt_AC39.
Pfam; PF01992; vATP-synt_AC39; 1.
Hydrolase; Hydrogen ion transport.
SEQUENCE 351 AA: 40787 MW; DEASSCA48329E544 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Transferase; Glycosyltransferase; Glycolysis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Saccharomyces cerevisiae (Baker's yeast).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 36;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR001830; Glyco_transf_20.
InterPro; IPR003337; Trehalose_Ppase.
Pfam; PF00982; Glyco_transf_20; 1.
Pfam; PF02358; Trehalose_Ppase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M88172; AAA35224.1; ALT_INIT.
EMBL; 249260; CAA89244.1; ALT_INIT.
                                                                                                                                                                                                                                       EMBL; AP002057; BAB03168.1; -. EMBL; AP000420; BAB03168.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 30, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63.2%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN=S288C / AB972;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SGD; S0004874; TPS3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328 LAWISEC 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TPS COMPLEX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 LAWITOC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-0CT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TPS3_YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P38426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TPS3_YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
       MARKARA MARKAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

us-09-165-546a-7.open.rsp

447 MWLEQCYM 454

RESULT

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-S288C / AB972;
MEDLINE-94378003; Pubbed-8091229;
MEDLINE-94378003; Pubbed-8091229;
Johnston M., Andrews S., Brinkman R., Cooper J., Ding H., Dover J., Du Z., Favello A., Fulton L., Gattung S., Geisel C., Kirzten J., Kucaba T., Hiller L., Jier M., Johnston L., Langston Y., Latreille P., Louis E.J., Macris C., Mardis E., Mencases S., Mouser L., Nhan M., Rikin L., Ries. L., St Peter H., Trevaskis E., Vaughan K., Vignati D., Wilcox L., Wohldman P., Waterston R., Wilson R.,
                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Complete nucleotide sequence of Saccharomyces cerevisiae chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical 123.0 kDa protein in SP016-REC104 intergenic region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                     DB 1; Length 1022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 36; DB 1; Length 1070; Pred. No. 81; 1; Indels 3; Mismatches 1; Indels
TPS COMPLEX DOMAIN.
P -> L (IN REF. 1).
N -> D (IN REF. 1).
S -> G (IN REF. 1).
D -> E (IN REF. 1).
MW, 49ADUA9E194E5962 CRC64;
                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BRCT 2.
IW; 767931285BB52580 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT; 1070 AA.
                                                                                                                                                                                                                                                                                        1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Science 265:2077-2082(1994).
                                                                                                                                                                                                                                        Score 36;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BRCT 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1070 AA; 123017 MW;
                                                                                                                                                                                                                                     63.2%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical protein; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63.2%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U10397; AAB68978.1; -. PIR; S46755; S46755. SGD; S0001197; ESC4. InterPro; IPR001357; BRCT.
                                                                                                                                               115363
                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00533; BRCT; 5.
SMART; SM00292; BRCT; 4.
PROSITE; PS50172; BRCT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               210
  746
154
733
802
870
                                                                                                                                                     AA;
                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
  255
154
733
802
870
1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                    111:11
723 WITKCF 728
                                                                                                                                                                                                                                                                                                                                                   4 WITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YHV4_YEAST
P38850;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vaudin M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                      CONFLICT
                             CONFLICT
                                                              CONFLICT
                                                                                                                                               SEQUENCE
  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YHV4_YEAST
  FT
FT
FT
SO
                                                                                                                                                                                                                                                                                                                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HDD BREET HER BREEN BREE
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ï
                                                                                                                                                                                                                       Bubb V., McCance D.J., Schlegel R.; {}^{*} * {}^{*} *DNA sequence of the HPV-16 E5 ORF and the structural conservation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ٠,
ک
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mycoplasma pneumoniae.
Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
Mycoplasmataceae; Mycoplasma.
NCBI_TaxID=2104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 83;
                                                                                                                                                                                                                                                                                                                            Seedorf K., Krammer G., Durst M., Suhai S., Rowekamp W.G.; "Human papillomavirus type 16 DNA sequence."; Virology 145:181-185(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Putative 91ycosyl transferase MG060 homolog (EC 2...-)
(D09_orf299).
                                                                                                                 Human papillomavirus type 16.
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             442COABFOD77CDCF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 35.5; DB 1;
Pred. No. 9.2;
3; Mismatches 0;
                                                        (Rel. 12, Last sequence update)
(Rel. 34, Last annotation update)
                83 A.A.
                                                                                                                                                                                                                                                                                               SEQUENCE OF 20-83 FROM N.A. MEDLINE=85246220; Pubmed=2990099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; K02718; AAA46938.1; ALT_SEQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR004270; Papilloma_E5. Pfam; PF03025; Papilloma_E5; 1.
                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE=88160059; PubMed=2831662;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN=ATCC 29342 / M129;
MEDLINE-97105885; Pubmed-8948633;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3;
                                          (Rel. 06, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62.3%;
46.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               83 AA; 9401 MW;
                                                                                                                                                                                                                                                    its encoded protein.";
Virology 163:243-246(1988).
               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 LLMWIT-----QCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47 LLLWITAASAFRCFI 61
                                                                                     protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR; A30016; W5WLHS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                               NCBI_TaxID=10581;
                                                                                                                                                 Papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Early protein SEQUENCE 83
                                         01-JAN-1988 (
01-OCT-1989 (
01-OCT-1996 (
                                                                                      Probable E5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y060_MYCPN
P75042;
            VE5_HPV16
P06927;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y060_MYCPN
VE5_HPV16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
               qq
```

ö

Gaps

ö

Conservative

Matches

3 MWITQCFL 10

9

```
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UBR1_YEAST
 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                            ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FCG2_CAVPO STANDARD, PRT; 341 AA.
060513; Q60512; Q60511; Q60498;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 34), Last annotation update)
Low affinity immunoglobulin gamma FC region receptor II precursor (FC-gamma RII) (FCRII) (IGG FC receptor II) (FC-gamma-1/gamma-2 receptor).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-90241239; PubMed-1692213;
Tominaga M., Sakata A., Ohmura T., Yamashita T., Koyama J., Onoue K.;
"The structure and expression of the guinea pig Fc receptor for 1gG1
and 1gG2 (Fc gamma 1/9amma 2R).";
Biochem. Biophys. Res. Commun. 168:683-689(1990).
                             'Complete sequence analysis of the genome of the bacterium Mycoplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -1- SUBCELLULAR LOCATION: Type I membrane protein.
-1- ALTERNATIVE PRODUCTS: 3 ISOFORMS; 2R-B1, 2R-B2 AND 2R-B3 (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
-1- TISSUB SPECIFICITY: MACROPHAGES AND POLYMORPHONUCLEAR LEUKOCYTES EXPRESS PREFERENTIALLY 2R-B1. B LYMPHOCYTES EXPRESS ALL THREE
                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMMUNORECEPTOR TYROSINE-BASED INHIBITOR MOTIF (ITIM). THIS MOTIFINVOLVED IN DOWNMODULATION OF CELLULAR FUNCTIONS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDILINE-93346746; PubMed-8345193;
Yamashita T., Shinohara K., Yamashita Y.;
"Expression cloning of complementary DNA encoding three distinct isoforms of guinnea pig Fc receptor for IgGl and IgG2.";
J. Immunol. 151:2014-2023(1993).
-i- FUNCTION: BINDS TO THE FC REGION OF IMMUNOGLOBULINS GAMMA. LOW AFFINITY RECEPTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
                                                                                                                                                                                                                                                                                                                                                                            ;
                                                          -!- SIMILARITY: BELONGS TO THE GLYCOSYLTRANSFERASE FAMILY 2. STRONG, TO M.GENITALIUM MG060.
Himmelreich R., Hilbert H., Plagens H., Pirkl E., Li B.-C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN: CONTAINS AN INTRACYTOPLASMIC MOTIF REFERRED AS
                                                                                                                                                                                                                                                                                                                                                Score 35; DB 1; Length 299;
Pred. No. 37;
1; Mismatches 1; Indels
                                                                                                                                                                                                                             EMBL; AE000010; AAB95728.1; -.
InterPro; IPR001173; Glycos_transf_2.
Pfam; PF00535; Glycos_transf_2; 1.
Hypothetical protein; Transferase; Glycosyltransferase;
                                                                                                                                                                                                                                                                                                      299 AA; 35079 MW; 6E3F89EDAE420417 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (ISOFORMS 2R-B1; 2R-B2 AND 2R-B3).
                                           pneumoniae.";
Nucleic Acids Res. 24:4420-4449(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORM 2R-B1).
                                                                                                                                                                                                                                                                                                                                                61.48;
71.48;
                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                         Complete proteome. SEQUENCE 299 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-10141;
                                                                                                                                                                                                                                                                                                                                                                                                                        1 |:|||
274 WYTRCFL 280
                                                                                                                                                                                                                                                                                                                                                                                                         4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-JY-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
FCG2_CAVPO
δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GNPEHREMGETLPEDPGEYSVVFGGSMMSCPGLPDGLEPAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CYTOPLEAMIC (POPENTIAL).
IG-LIKE C2-TYPE DOMAIN 1.
IG-LIKE C2-TYPE DOMAIN 2.
III MOTIF.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC. ...) (POTENTIAL).
GEYSVYFGGSMMSCPLEDGLEPPARTDLS.
STORM 2R-B2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
N-end-recognizing protein (Ubiquitin-protein ligase E3 component) (N-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003599; Ig.
InterPro; IPR003500; Ig_MHC.
InterPro; IPR003600; Ig_like.
Pfam; PF00047; Ig; 2.
SMART; SM00410; IG; 1.
SMART; SM00410; IG_like; 1.
Immunoglobulin domain; Repeat; Alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TDLS -> A (IN ISOFORM 2R-B1).
Q -> QVLPSYRFTAKGNDSGEYRCQ (IN REF. 1).
5137E3271D443B84 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
LOW AFFINITY IMMUNOGLOBULIN GAMMA FC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY. SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 35; DB 1; Length 341;
Pred. No. 41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGION RECEPTOR II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT; 1950 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL.
                                                                                                                                                                                                                                         EMBL; D13693; BAA02852.1; -.
EMBL; D13692; BAA02851.1; -.
EMBL; D13691; BAA02850.1; -.
EMBL; M3572; AAA37036.1; ALT_INIT.
HSSP; P12319; IAIT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UBRI OR PIRI OR YGR184C OR G7168.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37091 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61.4%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    341 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28 MLLWITVLFL 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43
225
246
246
64
145
318
71
152
106
106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             187
195
273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    UBR1_YEAST
P19812;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      recognin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /ARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /ARSPLIC
```

```
J. Gen. Virol. 73:1745-1752(1992).
-!- CATALYTIC ACTIVITY: N nucleoside triphosphate = N diphosphate +
                                                                                                                                                                                                                                                                                     1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19
                              [RNA](N).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                            TVC3_MOUSE
P06324;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                             TVC3_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
TVC1_MOUSE
                                                                                                                                                                                                                                                              Matches
     δ
                                                                                                                                                                                                                                                                                                                                                                                      ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@liber.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                        SEQUENCE OF 346-1950 FROM N.A.
Hebling U., Hofmann B., Delius H.;
Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: RECOGNITION COMPONENT OF THE N-END RULE PATHWAY. BINDS
-!- FUNCTION: BEARING AMINO-TERMINAL RESIDUES THAT ARE DESTABILIZING ACCORDING TO THE N-END RULE, BUT DOES NOT BIND TO OTHERWISE IDENTICAL PROTEINS BEARING STABILIZING AMINO-TERMINAL RESIDUES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-92333259; PubMed-1629699;
Elliott R.M., Dunn E., Simons J.F., Pettersson R.F.;
"Nucleotide sequence and coding strategy of the Uukuniemi virus L RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                        "DNA sequence analysis of a 23,002 bp DNA fragment of the right arm of Saccharomyces cerevisiae chromosome VII.";
Yeast 13:357-363(1997).
                                                                                                            Arroyo J., Garcia-Gonzalez M., Garcia-Saez M.I., Sanchez-Perez M., Nombela C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Viruses; ssRNA negative-strand viruses; Bunyaviridae; Phlebovirus
NCBL_TaxID=11591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 35; DB 1; Length 1950;
Pred. No. 2.1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Indels
STRAIN=S288C / GRF88;
MEDLINE-91006011; PubMed=2209542;
Bartel B., Wuenning I., Varshavsky A.;
"The recognition component of the N-end rule pathway.";
EMBO J. 9:3179-3189(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33E4CD3A031AF523 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
RNA-directed RNA polymerase (EC 2.7.7.48) (L protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                   MEDLINE-97279231; PubMed-9133739;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PFuzuv, TNG; 1.
SMART; SM0184; TNG; 1.
SMART; SM00396; ZnF_UBR1; 1.
Ligase; Ubiquitin conjugation.
                                                                                                                                                                                                                                                                                                                                                                                              EMBL, X53747; CAA37779.1; -. EMBL, X59074; CAA67528.1; -. EMBL, Z72969; CAA97210.1; -. PIR, S12332; S12332. SGD; S0003416; UBR1. InterPro; IPR003126; ZnF_UBR1. InterPro; IPR001841; Znf_ring. Pf02207; Zf_UBR1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61.4%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Uukuniemi virus (Uuk)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               395 ILWITHC 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-S23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            segment.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RRPL_UUK
P33453;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RRPL_UUK
 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1)
SEQUENCE FROM N.A.
MEDLINER-85137888; Pubmed-3871915;
Kranz D.M., Saito H., Heller M., Takagaki Y., Haas W., Eisen H.N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T-CELL RECEPTOR GAMMA CHAIN V REGION
                                                                                                                                                                                                                                     Transferase, Nucleotidyltransferase, RNA-directed RNA polymerase.
SEQUENCE 2103 AA; 241039 MW; BOEA708451B0B6BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                61.4%; Score 35; DB 1; Length 2103; 75.0%; Pred. No. 2.2e+02; rive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tonegawa S.;
"Limited diversity of the rearranged T-cell gamma gene.";
Nature 313.752-755(1985).
PTR; A02019; RWMS12.
HSSP; P01709; 2MCG.
InterPro; IPR003006; Ig_MHC.
InterPro; IPR003596; Ig_V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59.6%; Score 34; DB 1; Length 132; 60.0%; Pred. No. 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15434 MW; 855D714D04A3CCFE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T-cell receptor gamma chain V region DFL12 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            132 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 26;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V SEGMENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DFL12.
                                                                                                                                                                                        EMBL; D10759; BAA01590.1; -. PIR; JQ1621; JQ1621.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR003596; Ig_v. Pfam; PF00047; ig; 1. SMART; SM00406; IGv; 1. T-cell; Receptor; Signal. SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                   6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JAN-1988 (Rel. 06, 01-JAN-1988 (Rel. 06, 15-JUL-1999 (Rel. 38,
                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19 1
115 1
132 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMWITOCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLRWFTSCCL 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Complete primary structure of a heterodimeric T-cell receptor
of deduced from cDNA sequences.";

"Complete primary structure of a heterodimeric T-cell receptor
of deduced from cDNA sequences.";

"It describes THIS MRNA MAS ISOLATED FROM A CYTOTOXIC
T-LYMPHOCYTE. THE GENE CORRESPONDING TO THIS MRNA IS REARRANGED
SPECIFICALLY IN T CELLS AND ITS ORGANIZATION IS SIMILAR TO AN IG
GENE, WITH V (OR V+D), J, AND C REGIONS.

"IT SPECIFICALIZED IN TOTAL SIMILAR TO AN IG
REPPRO, IPRO0365 Ig_MHC.

"IT InterPro', IPRO03596, Ig_V.

"IT InterPro', IRRO03596, Ig_V.

"IT SPECIFICALIZED IN TOTAL SIMILAR TO AN IG
"IT INTERPRO', IRRO03596, Ig_V.

"IT SPECIFICAL SAMPLES IN TOTAL SIMILAR TO AN IG
"IT INTERPRO', IRRO03596, Ig_V.

"IT INTERPRO', IRRO03596, Ig_V.

"IT INTERPRO', IRRO03596, IG_V.

"IT INTERPRO', IRRO03596, IG_V.

"IT INTERPRO', IRROUAD IS INTERPROPED IN TOTAL SIMILAR TO AN IG
"IT INTERPRO', IRROUAD IS INTERPROPED IN TOTAL SIMILAR TO AN IG
"IT INTERPROPED IN TOTAL SIMILAR TO AN 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDILTB-8609933; Pubmed=3917858;
Hayday A.C., Saito H., Gillies S.D., Kranz D.M., Tanigawa G.,
Eisen H.N., Tonegawa S.;
"Structure, organization, and somatic rearrangement of T cell gamma
                                          21-JUL-1986 (Rel. 01, Created)
23-OCT-1986 (Rel. 02, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38mma chain V region V108A precursor.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T-CELL RECEPTOR GAMMA CHAIN V REGION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=BALB.B;
BADLINE=64245824; PubMed=6330561;
Saito H., Kranz D.M., Takagaki Y., Hayday A.C., Eisen H.N.,
Tonegawa S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 34; DB 1; Length 135;
Pred. No. 26;
0; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 402145C95E924D7D CRC64;
135 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [2] SEQUENCE FROM N.A. (CLONE PHDS4/PHDS203).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           V108A.
V SEGMENT.
J SEGMENT.
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   116 V
135 J
135
15930 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            59.6%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 59.6
Best Local Similarity 60.0
Matches 6; Conservative
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Jell 40:259-269(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
117
135
135 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LLMWITQCFL 10
                                                                                                                                                                                                                                   NCBI_TaxID=10090;
TVC1_MOUSE
P01740;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                              genes.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
δλ
```

Search completed: July 16, 2002, 08:00:43 Job time: 821 sec

qq

```
091rk4 arabidopsis
091rk5 arabidopsis
091rk3 arabidopsis
091rk2 arabidopsis
091rk2 arabidopsis
097wu4 sulfolobus
090wu4 homo sapien
095100 homo sapien
091yu1 arabidopsis
09500 homo sapien
091yu1 arabidopsis
09600 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
29vq78 drosophila
090748 encephalomy
090751 encephalomy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Multiple pathogenic and benign genomic rearrangements occur at a 35-kb duplication involving the NEMO and the LAGE2 genes.";
Hum. Mol. Genet. 0:0-0(2001).
EMBL, AJ012834; CAA10194.1; -.
EMBL, AF277315; AAL27015.1; -.
SEQUENCE 180 AA; 18236 MW; 9077FAF953543A25 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                            human
                                                                                                                                                                                                                                                                                                                                                                                                           human
                                                                                                                                                                                                                                                                                                                                                                                                                         human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-MELANOMA;
MEDLINE-99325550; PubMed-10399963;
Aarnoudse C.A., Van den Doel P.B., Heemskerk B., Schrier P.I.;
"Interleukin-2-induced, melanoma-specific T cells recognize CAMEL,
unexpected translation product of LAGE-1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                           09wiv3 | 09wiv4 | 09wiv6 | 09wiv6 | 09wiv7 | 09w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [2]
SEQUENCE FROM N.A.
Aradhya S., Bardaro T., Galgoczy P., Yamagata T., Esposito T.,
Patlan H., Ciccodicola A., Kenwrick S., Platzer M., D'Urso M.,
Nelson D.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O9Y479 PRELIMINARY; PRT; 180 AA.
09Y479;
01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
LAGE-1S PROTEIN (CANCER/TESTIS ANTIGEN 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 100.0%; Score 57; DB 4; Best Local Similarity 100.0%; Pred. No. 0.0083; Matches 10; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
Q9VQ78
090748
090751
Q9LRK4
                                                            Q9LRK5
Q9JL02
Q9LRK3
Q9LRK2
                                                                                                                    097WU4
09HD97
                                                                                                                                                   Q9UBK4
Q9UGN4
O95100
Q9LJW1
                                                                                                                                                                                                                                                                                                                                                                           Q9WIV3
Q9WIV4
Q9WIV6
Q9WIV7
                                                                                                                                                                                                                                                                                                                                              Q9W8H7
Q9WIV2
                                                                                                                                                                                                                                        Q969X9
Q96P06
Q13880
Q9NXR7
                                                                                                                                                                                                                                                                                                    Q9WA26
                                                                                                                                                                                                                                                                                                                  09W9SB
                                                                                                                                                                                                                                                                                                                                 09W9F2
                                                                                                                                                                                                                            09FE04
                                                                                                                                                                                                              Q9XYA7
   5
112
110
110
110
110
110
110
                                                                                                                                                                                                                                                                        LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
NCBI_TaxID=9606;
 RESULT
09Y479
 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09px36 equine arte
09px34 equine arte
09qxh1 equine arte
09qxf2 equine arte
09GxF2 equine arte
09GxF7 plasmodium
09krm7 vibrio chol
09krm7 vibrio chol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9sgp2 arabidopsis
Q9wgd6 human papil
O97336 plasmodium
O14411 candida alb
                                                                                                July 16, 2002, 07:45:57; Search time 89.54 Seconds (without alignments) 19.320 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9y479 homo sapien
Q9ujk3 homo sapien
Q96nh3 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       desulfuroco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09újk3 h
096nh3 h
046517 d
                             Compugen Ltd
                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
             GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                     562222 seqs, 172994929 residues
                                                                                                                                                                                                                                                                                                                                                                                                        summaries
                                                                        protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9PX35
Q9PX34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               090KH1
090KG6
090KF2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09WGD6
097336
014411
                                                                                                                                                                                                                         BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9KRM7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q962M9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sp_fungi:*
sp_human:*
sp_invertebrate:*
sp_mammal:*
sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_vertebrate:*
sp_unclassified:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sp_organelle:*
sp_phage:*
sp_plant:*
                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                         US-09-165-546A-7
57
                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                  sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sp_rodent:*
sp_virus:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3250
                                                                                                                                                                                           1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                     SPTREMBL_19:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match 1
```

88:-110:-111:-114:-116:-116:-

Result 8

sed

Minimum DB Maximum DB

Database

Title: Perfect score:

Sequence:

٠

OM protein

Run on:

Scoring table:

Searched:

Last sequence update) Last annotation update)

Created)

65 AA.

```
STRÀIN-DSM 2126;
MEDLINE-95206243; PubMed-7898436;
Ceccarelli E., Bocchetta M., Creti R., Sanangelantoni A.M., Tiboni O.,
                                                                                                                                                                                                   Archaea; Crenarchaeota; Desulfurococcales; Desulfurococcaceae; Desulfurococcus.
                                                                                                                                                                                                                                                                         65 AA; 7597 MW; B51DEF4F5C84E0F8 CRC64;
                                 01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01, 01-DEC-2001 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                             66.7%;
60.0%;
                                                                                                                                                                                                                                                                                                                       Similarity 60.0
6; Conservative
                                                                                 Desulfurococcus mobilis.
                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                            1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                          | || :|||
LTMWYARCFL 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LLMWITQCFL 10
                                                                                                                                            SEQUENCE FROM N.A.
                                                                       ORFD 65 (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=11047;
                                                                                                                      NCBI_TaxID=2274;
                                                                                                                                                                                        Cammarano P.;
                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                              NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                      046517;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9PX35;
                                                                                                                                                                                                                                                                                                                                                                                                                                            09PX35
            046517
                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORF4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9PX35
046517
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ő
                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-BRAIN:
Nishi T., Nakagawa S., Senoh A., Mizuguchi H., Inagaki H.,
Sugiyama T., Irle R., Otsuki T., Sato H., Wakamatsu A., Ishii S.,
Sugiyama T., Irle R., Otsuki T., Sato H., Wakamatsu A., Ishii S.,
Ximura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M.,
Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K.,
Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B., Suzuki Y.,
Sugano S., Nagahari K., Masuho Y., Nagai K., Isogai T.;
FAEDO human cDNA sequencing project.";
Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AKO55461, BAB70925.1;
SEQUENCE 593 AA; 68636 MW; B3295013BB2225BC CRC64;
                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó
                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                            Score 44; DB 4; Length 151; Pred. No. 1.5; 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 44; DB 4; Length 593;
Pred. No. 5.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                                                                        Blakey S.;
Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL035593; CAB5626.1; -.
                                                                                                                                                                                                                                                                         151 AA; 17990 MW; 9895001E4CF4B6DE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   096NH3;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CDNA FLJ30899 FIS, CLONE FEBRA2005726.
                                                                                        01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DJ310J6.1 (NOVEL PROTEIN) (FRAGMENT).
                                                                      151 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                           593 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77.28;
                                                                                                                                                                                                                                                                                                             77.2%;
87.5%;
                                                                                                                                                                                                                                                                                                           Ouery Match 77.2
Best Local Similarity 87.5
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 77.2
Best Local Similarity 87.5
Matches 7; Conservative
                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                      Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human).
158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             494 LOWITOCF 501
                                                                                                                                                                                                                                                                                                                                                                                 52 LOWITOCF 59
                                                                                                                                                                                                                                                                                                                                                          2 LAWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 LAWITOCF 9
                                                                                                                                                                                        NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606
                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                         DJ310J6
                                                                                 090ЛКЗ;
                                                                    Q9UJK3
                                                                                                                                                                                                                                                                                                                                                                                                                                           Q96NH3
                                                                                                                                                                                                                                                                                                                                                                                                                     m
                                             ~
                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                         Q9UJK3
                                                                                                                                                                                                                                                                                                                                                                                                                                Q96NH3
           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
```

ó

Gaps

; 0

Length 65; 3; Indels

Score 38; DB 1; Pred. No. 7.8; L; Mismatches

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN=BT-PA96, RI., AND PI;
MEDLINE=99394666; PubMed=10466790;
MEDLINE=99394666; PubMed=10466790;
MEDLINE=99394666; PubMed=10466790;
Timoney P.J., MacLachlan N.J.;
Timoney P.J., MacLachlan N.J.;
"Genetic Stability of Equine Arteritis Virus during Horizontal and "Genetic Stability of Equine Arteritis Virus during Horizontal and J. Gen. Virol. 80:1949-1958(1999).
EMBL; AFI18773; AAD54755.1;
EMBL; AFI18773; AAD54707.1;
InterPro; IRR004257; GP4.
                                                                                                                                                                           Viruses; ssRNA positive-strand viruses, no DNA stage; Nidovirales;
Arteriviridae; Arterivirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 38; DB 12; Length 152;
Pred. No. 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF03010; GP4; 1.
SEQUENCE 152 AA; 17150 MW; 5E47F3CD85E193B4 CRC64;
                                              01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
152 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.7%;
50.0%;
                                                                                                                                                        Equine arteritis virus (EAV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 50.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |: |: ||: |
| 143 LVRWVQQCYL 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

RESULT

```
143 LVRWVQQCYL 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LLMWITOCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=11047;
                                                                                                                                                                                                                                                                                            STRAIN=R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 090KF2;
                                                                         09QKG6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9QKF2
                                        æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
Q9QKF2
                                        RESULT
                                                           090KG6
                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                              C STRAIN-2, A2, A3, AND A4;

MEDLINE-99394666; PubMed-10466790;

MA Balsauriya U.Br., Hedges J.F., Nadler S.A., McCollum W.H.,

Timoney P.J., MacLachlan N.J.;

Timoney P.J., MacLachlan N.J.;

Genetic Stability of Equine Arteritis Virus during Horizontal and

Vertical Transmission in an Outbreak of Equine Viral Arteritis.";

Wertical Transmission in an Outbreak of Equine Viral Arteritis.";

WEMBL; AF118776; AAD54725.1;

BENBL; AF118776; AAD54695.1;

BENBL; AF118771; AAD54695.1;

REMBL; AF118772; AAD54701.1;

REMBL; AF118774 AAD54701.1;

REMBL; AF118774 AAD54701.1;

REMBL; AF118774 AAD54701.1;

REMBL; AF11874 AAD5470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-Al;
MEDLINE-99394666; PubMed=10466790;
Balasuriya U.B., Hedges J.F., Nadler S.A., McCollum W.H.,
Timoney P.J., MacLachlan N.J.;
Timoney P.J., MacLachlan N.J.;
"Genetic stability of equine arteritis virus during horizontal and vertical transmission in an outbreak of equine viral arteritis.";
J. Gen. Virol. 80:1949-1958(1999).
EMBL; AF118769; AB454683.1; -.
InterPro; IPR004257; GP4.
Pfam; PF03010; GP4; 1.
SEQUENCE 152 AA; 16995 WW; SF8FE7815B70835F CRC64;
                                                                                                                                            Equine arteritis virus (EAV).
Viruses; ssRNA positive-strand viruses, no DNA stage; Nidovirales;
Arteriviridae; Arterivirus.
NCBI_TaxID=11047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Equine arteritis virus (EAV).
Viruses: ssRNA positive-strand viruses, no DNA stage; Nidovirales;
Arteriviridae; Arterivirus.
NCBI_TaxID=11047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                   Q9PX34;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 38; DB 12;
Pred. No. 17;
3; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 38; DB 12;
Pred. No. 17;
                                    152 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66.7%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.7%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |: |: ||: |
143 LVRWVQQCYL 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      143 LVRWVQQCYL 152
                                                                                                                                                                                                                                     FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9QKH1;
                                   Q9PX34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           090KH1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                  09PX34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             090KH
                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                    Balasuriya U.B., Hedges J.F., Nadler S.A., McCollum W.H.,
Timoney P.J., MacLachlan N.J.;
"Genetic stability of equine arteritis virus during horizontal and
yertical transmission in an outbreak of equine viral arteritis.";
J. Gen. Virol. 80:1949-1958(1999).
EMBL; AF18774; AAD54713.1;
InterPro; IPR0040577; GP4.
Pfam; PF03010; GP4; 1.
SEQUENCE 152 AA; 17082 MW; CF18AEAA1B9D756B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PERINEC;
MEDLINE-99394666; PubMed-10466790;
Balasuriya U.B., Hedges J.F., Nadler S.A., McCollum W.H.,
Balasuriya U.B., Hedges J.F., Nadler S.A., McCollum W.H.,
Timoney P.J., MacLachlan N.J.;
J. Gen. Virol. 80:1949-1958(1999).
EMBL; AFI18782; AAD54761.1;
Pfam; PF03010; GP4; 1.
SEQUENCE 152 AA; 17138 MW; OESAF3C417BC256F CRC64;
                                                                                                                                                                                                Viruses; ssRNA positive-strand viruses, no DNA stage; Nidovirales;
Arteriviridae; Arterivirus.
NCBI_TaxID=11047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Equine arteritis virus (EAV).
Viruses; ssRNA positive-strand viruses, no DNA stage; Nidovirales;
Arteriviridae; Arterivirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      66.7%; Score 38; DB 12; Length 152; 50.0%; Pred. No. 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.7%; Score 38; DB 12; Length 152; 50.0%; Pred. No. 17; 2. Indels ive 3; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2; Indels
                                                01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                152 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99394666; PubMed=10466790;
                                                                                                                                                                     Equine arteritis virus (EAV).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Conservative
PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               143 LVRWVQQCYL 152
```

```
F3M18.12.
                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                      002168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9SGP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 13
  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9SGP2
                                  δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.

STRAIN=EL TOR N16961 / SEROTYPE 01;

MEDLINE=20406833; Publed=10952301;

Heidelberg J.F., Eisen J.A., Nelson W.C., Clayton R.A., Gwinn M.L.,

Dodson R.J., Haft D.H., Hickey E.K., Peterson J.D., Umayam L.A.,

Gill S.R., Nelson K.E., Read T.D., Tettelin H., Richardson D.,

Ermolaeva M.D., Vamathevan J., Bass S., Qin H., Dragoi I., Sellers P.,

McDonald L., Utterback T., Fleischmann R.D., Nierman W.C., White O.,

Salzberg S.L., Smith H.O., Colwell R.R., Mekalanos J.J., Venter J.C.,
                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                     SEQUENCE FROM N.A. Tischer K., Huestis R., Saul A.; The sequence of 200 kb portion of a Plasmodium vivax chromosome reyeals a high degree of conservation with P. falciparum chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacteria; Proteobacteria; gamma subdivision; Vibrionaceae; Vibrio.
NCBI_TaxID=666;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'DNA sequence of both chromosomes of the cholera pathogen Vibrio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                    ö
                                                                                            Plasmodium vivax.
Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
NCBL_TaxID=5855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 38; DB 16; Length 408;
Pred. No. 43;
                                                                                                                                                                                                                                              Score 38; DB 5; Length 273;
Pred. No. 29;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                         Mol. Biochem. Parasitol. 0:0-0(2001).
EMBL; AY003872; AAF99451.1; -.
SEQUENCE 273 AA; 32028 MW; 73F0E1666635A30C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        44619 MW; B786CB2501E37C8C CRC64;
                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                 408 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2; Mismatches
                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last seq
01-DEC-2001 (TrEMBLrel. 19, Last ann
HYPOTHETICAL PROTEIN VC1609.
                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                              66.78;
66.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 62.5%;
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AE004238; AAF94763.1;
TIGR; VC1609; -.
                                        01-DEC-2001 (TrEMBLrel. 19, 01-DEC-2001 (TrEMBLrel. 19, 01-DEC-2001 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                   6; Conservative
                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 406:477-483(2000)
                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        408 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Complete proteome.
                                                                                                                                                                                                                                                                                                    11:1 111
27 LLIWTLQCF 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     345 LVWLAQCF 352
                                                                                                                                                                                                                                                                                        1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                         Vibrio cholerae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 LMWITQCF 9
                                                                       PV1H14025_P.
                                                                                   PV1H14025C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cholerae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                           Q9KRM7;
                    Q962M9
                              Q962M9
                                                                                                                                                                                                                                                                                                                                                                 Q9KRM7
RESULT 10
                                                                                                                                                                                                                                                                                                                                           RESULT 11
            Q962M9
                                                                                                                                                                                                                                                                                                                                                       Q9KRM7
                              δ
                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
```

```
Eukaryota; Viridiplantae; Streptophytá; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
Shinn P., Brooks S., Buehler E., Chao Q., Johnson-Hopson C., Khan S.,
Kim C., Altafi H., Bei Q., Chin C., Chiou J., Choi E., Conn L.,
Conway A., Gonzales A., Hansen N., Howing B., Koo T., Lam B., Lee J.,
Lenz C., Li J., Liu A., Liu K., Liu S., Mukharsky N., Nguyen M.,
Palm C., Pham P., Sakano H., Schwartz J., Southwick A., Thaveri A.,
Toriumi M., Vaysberg M., Yu G., Federspiel N.A., Theologis A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                  Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBL_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Genomic sequence for Arabidopsis thaliana BAC F3M18 from chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Genome sequence of the nematode C. elegans: a platform for investigating biology. The C. elegans Sequencing Consortium."; Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-BRISTOL N2;
Miller N., Gattung S.;
"The sequence of C. elegans cosmid T20F7.";
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Waterston R.;
"Direct Submission.";
Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; U97550; AAK18981.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               al protein.
423 AA; 47451 MW; 6997065D515E7B21 CRC64;
                                     01-JUL-1997 (TIEMBLrel. 04, Created)
01-DEC-2001 (TIEMBLrel. 19, Last sequence update)
01-DEC-2001 (TIEMBLrel. 19, Last annotation update)
HYDOTHETICAL 47.5 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 38; DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        996 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. 44;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
PRT;
                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=BRISTOL N2;
MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66.7%;
62.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 62.5
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
PRELIMINARY;
                                                                                                                                                                                                         Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. STRAIN=BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |:|| ||:
43 LLWINQCY 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 LMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ecker J.R.;
```

```
Query Match
                                                097336
                          RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                      097336
                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                       ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=99190418; PubMed=10091997;
Eriksson A., Herron J.R., Yamada T., Wheeler C.M.;
"Human papillomavirus type 16 variant lineages characterized by
nucleotide sequence analysis of the E5 coding segment and the E2 hinge
                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Human papiliomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-96079021; PubMed=7494284;
Yamada T., Wheeler C.M., Halpern A.L., Stewart A.C., Hildesheim A.,
SIMILARITY: BELONGS TO THE SER/THR FAMILY OF PROTEIN KINASES
                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12; Length 83;
                                                                                                                                                                                                                           66.7%; Score 38; DB 10; Length 996;
55.6%; Pred. No. 97;
ive 3; Mismatches 1; Indels
                                                                                                                                        PROSITE; PS00107; PROTEIN KINASE_ATP; UNKNOWN_1.
PROSITE: PS00011; PROTEIN KINASE_DOM; 1.
PROSITE: PS01008; PROTEIN_KINASE_ST; 1.
ATP-binding; Serine/theonine-protein kinase; Transferase.
SEQUENCE 996 AA; 108929 MW; 9C9A6A708AIF933A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
E5 PROTEIN.
E5.
Human papillomavirus type 16.
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Û
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9387 MW; B57D5DD3DD77CB7E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                83 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 37.5; DI
Pred. No. 12;
2; Mismatches
                               InterPro; IPR00161; LRR.
InterPro; IPR001592; LRR_out.
InterPro; IPR002399; Ser_thr_pkinase.
InterPro; IPR001245; Tyr_pkinase.
InterPro; IPR001245; Tyr_pkinase.
Pfam: PP000569; LRR; 22.
Pfam: PP00069; pkinase; 1.
PRINTS; PR00109; TERRICHRPT.
PRINTS; SR00109; TERRICHRPT.
                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Gen. Virol. 80:595-600(1999).
BMBL; AFL207077, AAD24035.1, -
Interpro; IPR004270; Papilloma_E5.
Pfam: PF03025; Papilloma_E5. 1.
         EMBL; AC010155; AAF16764.1;
InterPro; IPR000719; Euk_pkinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           L2, and L1 coding segments.";
J. Virol. 69:7743-7753(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65.8%;
illarity 53.3%;
Conservative
                                                                                                                                                                                                                Query Match
Best Local Similarity 55.6%;
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLMWIT----QCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47 LLLWITAASAFRCFL 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match
Best Local Similarity
18, Conserve
                                                                                                                                                                                                                                                                                           :||:|:| |
209 VMWLTECHL 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                             2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Papillomavirus. -
NCBI_TaxID=10581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jenison S.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-IS808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-IS808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       region.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                           O9WGD6;
                                                                                                                                                                                                                                                                                                                                                               O9WGD6
                                                                                                                                                                                                                                                                                                                                       RESULT 14
Q9WGD6
 qq
                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                    Bowman S., Lawson D., Basham D., Brown D., Chillingworth T., Churcher C.M., Craig A., Davies R.M, Devlin K., Feltwell T., Gentles S., Gwilliam R., Hamin N., Harris D., Holroyd S., Hornsby Horrocks P., Jagels K., Jassal B., Kyes S., McLean J., Moule S., Mungall K., Murphy L., Oliver K., Quail M.A., Rajandream M.-A., Rutter S., Skelton J., Squares R., Squares S., Sulston J. B., Whitehead S., Woodward J.R., Newbold C., Barrell B.G.; "The complete nucleotide sequence of chromosome 3 of Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                             Plasmodium falciparum (isolate 3D7).
Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
NCBI_TaxID=36329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64.9%; Score 37; DB 5; Length 317; 55.6%; Pred. No. 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         falciparum "",
Nature 400:532-538(1999).
EMBL: AL034560; CAB39133.2; -..
SEQUENCE 317 AA, 37389 MW; 26CF0DC38C651474 CRC64;
                                                 01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
PFC00085C, MAL3PB.15 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2; Mismatches
317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search completed: July 16, 2002, 07:59:50 Job time: 833 sec
PRT;
                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-99376085; PubMed-10448855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN-3D7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQCF 9
```

```
July 16, 2002, 07:39:52 ; Search time 113.12 Seconds (without alignments) 9.819 Million cell updates/sec
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                        747574 seqs, 111073796 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                             OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A_Geneseq_032802:*
                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0 Maximum DB seq length: 2000000000
                                                                                                                                                                                      US-09-165-546A-7
57
                                                                                                                                                                                                                                   1 LLMWITQCFL 10
                                                                                                                                                                                              Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                    Run on:
```

A.SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1980.DAT:\*

2: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1981.DAT:\*

3: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1981.DAT:\*

3: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1982.DAT:\*

5: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1981.DAT:\*

5: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1985.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1980.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1980.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1980.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1980.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1990.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1991.DAT:\*

7: /SIDSI./gcgdata/hold-geneseq/genesegp-embl/AA1999.DAT:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No 1 1 2 3 3 3 4 4 4 4 7 7 7 9 8 8 8 9 9	Score 57 57 57 57 57 57 57 57	Ouery Match 100.0 100.0 100.0 100.0 100.0	Query Query Match Length DB 100.0 10 20 100.0 11 19 100.0 11 20 100.0 11 21 100.0 11 21 100.0 11 21 100.0 11 21	DB 20 21 20 21 21 21 21 21 21 21 21 21 21 21 21 21	SUMMARIES  ID  AAY06003  AAX5244  AAW62585  AAY01761  AAB02790  AAB02790  AAB02630  AAY78469  AAY78469	Description Human cancer antig Human tumour antig Cancer associated Exemplary antigeni Antigenic peptide NY-ESO-1 peptide NY-ESO-1 peptide NY-ESO-1 degrived p Human tumour antig
10	57	~ 100.0	11	22	AAG67165	Cancer testis tumo
11	57	100.0	11	22	AAE07777	Human wildtype NY

!	ALIGNMENTS  T 1  AAY06003 standard; Peptide; 10 AA.  AAX06003;  16-AUG-1999 (first entry)  Human cancer antigen NY ESO-1/CAG-3 HLA peptide motif.  NY ESO-1/CAG-3 gene; Cancer peptide; antigen; human; leukaemia; non-Hodgkins lymphoma; Lung cancer; netastasis; melanoma; adenocarcinoma; thomyon scolon cancer; uterine cancer; breast cancer; prostate cancer; ovarian cancer; uterine cancer; sarcoma; tumour; diagnosis; immunotherapy; therapy; vaccine; human leukocyte antigen; HLA.  Homo sapiens.  #WO9918206-A2.  15-APR-1999.  21-SEP-1998; 98WO-US19609.  (USSH ) US DEPT HEALTH & HUMAN SERVICES.  Rosenberg SA, Wang RF;  WPI: 1999-277270/23.
AAE06849 AAB85298 AAB852916 AAB82016 AAB82016 AAB69947 AAE07158 AAE07765 AAE07766 AAE077766 AAE077766 AAE077766 AAE077766 AAE077766 AAE07776	ALIGNMENT  10 AA.  17CAG-3 HLA  gene; cancer phoma; Hodgki er; prostate ncer; kidney ur; digen; HLA.  igen; HLA.   MAN SERVICES.
222222222222222222222222222222222222222	10 10 11 10 III
55100555555555555555555555555555555555	ry) ESO-1/C G-3 gene G-3 gene G-3 gene cancer; cancer; c antige e antige 1428.
11111111111111111111111111111111111111	standard; Peptide; 10 AA.  99 (first entry)  cer antigen NY ESO-1/CAG-3 HLA  CAG-3 gene; CAG-3 gene; cancer;  non-Hodgkins lymphoma; Hodgkins lymphoma; Hodgkins s; melanoma; adenocarcinoma; timer; blader cancer; kidney cer; sarcoma; tumour; diagnositumour; sarcoma; tumour; diagnositumon leukocyte antigen; HLA.  ens.  -A2.  99.  97; 97US-0061428.  S DEPT HEALTH & HUMAN SERVICES.  SA, Wang RF;  -277270/23.
000000000000000000000000000000000000000	irst irst tigen tigen tigen gene; Hodgk hoea brea brea brea 98WO- 97US- 97US- 1 HEAL
	standard; ; 999 (first ncer antige a; non-Hodg is; melanom cancer; bre cancer; can
\$	T 1 AAY06003 stan AAY06003; 16-AUG-1999 Human cancer NY ESO-1/CAG- leukaemia; m etastasis; m etarine cance cervical cance cervical cancer; vaccine; huma Homo sapiens. W09918206-A2. 15-APR-1999; 21-SEP-1998; 08-OCT-1997; (USSH ) US DE ROSENDERG SA, WPI; 1999-277
11111111111111111111111111111111111111	RESULT AAY 0600 1D AAY 0600 1D AAY 0600 AX

```
This peptide was identified as an HLA peptide motif following a screen for epitopes from the coding region of human ESO-1/CAG-3 CAR158599. 30 Epitopes (see AAY0588-Y06017) were identified. The present peptide (ranked 16) corresponds to amino acid residues to 158-167 of CAG-1 ORF1 (see AAY05965). CAG-1 is a new and potent tumour antigen capable of eliciting an antigen specific immune response by T cells. Cancer peptides (see AAY05667-87) derived from CAG-3, portions of CAG-3 and their variants, are useful as cancer vaccines. A claimed method of preventing or inhibiting cancer involves administering a cancer peptide, with or without an HLA molecule. The cancer peptides form part of, or are derived concer such as primary or metastatic melanoma, thymoma, sarcoma, lung cancer, liver cancer, leukaemia, uterine cancer, cervical cancer, bladder cancer, kidney cancer and the cancer and t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cancer; tumour; antigen; MHC; major histocompatility complex; Class I; T-cell; cytotoxic; stimulation; proliferation; treatment; diagnosis; prevention; melanoma; breast cancer; ovarian cancer; prostate cancer; hepatoma; thyroid cancer; bladder cancer; lung cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel peptides which bind to MHC class I and MHC class II molecules useful for therapeutic and diagnostic purposes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stockert E, Jager E, Chen Y, Scanlan M, Alexander K, Old LJ;
Gure A, Ritter G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; score 57; DB 20; Length 10; 100.0%; Pred. No. 0.002; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human tumour antigen NY-ESO-1 peptide #7.
                                                   Example 10; Page 42; 88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY52434 standard; peptide; 10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 55; Page 20; 49pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (LUDW-) LUDWIG INST CANCER RES
Cancer antigen NY ESO1/CAG-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US06875.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0062422.
98US-0165546.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-FEB-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-038483/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 11mwitqcfl 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       thyroid cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  W09953938-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY52434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY52434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
ò
```

```
;
0
peptides #4-#7 (AAV52431-Y52434) are peptides derived from the human tumour antigen, NY-ESO-1 (AAY52430) which contain the motif LiMWIT (AAY52441). These sequences can bind to MHC (major histocompatibility class I HLA-A2 molecules, thereby stimulating proliferation of cytotoxic T-cells. CDNA encoding NY-ESO-1 was initially isolated from an oesophagus squamous cell cancer cDNA library. Tissue from studies revealed it to be expressed at high levels in normal ovary and testis but not in normal colon, kidney, liver, brain, oesophagus and skin. It was expressed in certain tumours and tumour cell lines with some degree of frequency - these included melanoma specimens and cell lines, and breast and bladder cancer specimens, with expression in other tumour types being sporadic. These NY-ESO-1-derived peptides may be used in methods and consolition used for the treatment, diagnosis and prevention of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptides AAW62585-87 are derived from cancer associated antigen NY-ESO-1, and are stimulators of cytotoxic T-cells. The specification describes a method for determining regression, progression of onset of a cancerous condition, comprising monitoring a sample from a patient with the cancerous condition for a parameter selected from NY-ESO-1 protein, a peptide derived from NY-ESO-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New isolated cancer associated antigen - is used to develop products for the diagnosis and treatment of cancers and for monitoring cancer % \left( 1\right) =\left\{ 1\right\} =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cancer associated antigen; NY-ESO-1; regression; progression; onset; cancer; treatment; diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancers (such as melanoma, breast cancer, prostate cancer, lung cancer, hepatoma, ovarian cancer, thyroid cancer, bladder cancer, or lymphoma) and to stimulate the proliferation of T cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 57; DB 21; Length 10; 100.0%; Pred. No. 0.002; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gure A, Jager E, Knuth A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW62585 standard; Peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cancer associated antigen peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 33; Page 17; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97WO-US16335.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96US-0725182.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drijfhout JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1998-286417/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scanlan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 llmwitqcfl 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO9814464-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chen Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW62585;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW62585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
```

```
AAB08702 standard; Peptide; 11 AA.
                LLMWITQCFL 10
                            11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200050589-A1
                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                    02-JAN-2001
                                                                                                                                                                                                                                                                                                    22-FEB-1999;
08-OCT-1999;
                                                                                                                                                                                                                                                           31-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                   EphA3 gene
                                                                                                                                                                                                                                                                                                                                                         Chiari R,
                                                                                                               AAB08702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                 AAB08702
                                                                                                      ò
                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                          ö
T cells specific for the peptide and an MHC molecule with which it non-covalently complexes. Methods for the treatment of a cancerous condition are also described. The NY-ESO-1 protein and peptides derived from it can be used for diagnosis and treatment of cancers and to monitor the efficacy of a therapeutic regime.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence represents an exemplary tumour associated peptide antigen. The specification describes a MAGE-3 tumour associated gene. Peptides (AAY01721-25) that bind human leucocyte antigen (HLA) Class II molecules can be derived from the MAGE-3 protein. These peptides and autologous CD4+ cells that bind to a complex of MAGE-3 peptide and HLA Class II, are used to treat MAGE-3 related diseases, particularly cancers (e.g. melanoma, osteosarcoma, leukemia and
                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 various forms of carcinoma). The peptides are also used to produce specific antibodies. Detection of of the peptides, e.g. in binding assays, particularly with antibodies, is used for diagnosis of such
                                                                                                                                                                                                                                                                                                           MAGE-3; tumour associated gene; human leucocyte antigen Class II; autologous CD4+ cell; MAGE-3 related disease; cancer; melanoma; osteosarcoma; leukemia; carcinoma.
                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Isolated peptides that bind to human leucocyte antigen class II
                                                                                                   Score 57; DB 19; Length 11; Pred. No. 0.0022;
                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Heirman C;
Van Der Bruggen
                                                                                                                                                                                                                                                                                        Exemplary antigenic peptide derived from NY-ESO-1.
                                                                                                                         ö
                                                                                      100.0%; Scor.
100.0%; Pred. No. v..
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , Corthals J,
Thielemans K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 29; 88pp; English.
                                                                                                                                                                                                                    AAY01761 standard; Peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                (LUDW-) LUDWIG INST CANCER RES (UYVR-) UNIV VRIJE BRUSSEL.
                                                                                                                                                                                                                                                                                                                                                                                                                      98WO-US18601
                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-0928615
                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Boon-Falleur T, Chaux P,
                                                                                                Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stroobant V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-244031/20
                                                                                                                                            1 LLMWITQCFL 10
                                                                                                                                                         11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11 AA;
                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                           W09914326-A1
                                                                                                                                                                                                                                                                                                                                                                                                                     04-SEP-1998;
                                                                                                                                                                                                                                                                 25-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                          12-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                 25-MAR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Luiten R,
                                                                   Sequence
                                                                                                                                                                                                                                            AAY01761;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diseases
                                                                                                                                                                                                           AAY01761
  8
                                                                                                                                                                                                                                 à
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB08668-B08704 represent antigenic peptides characteristic of tumours. The peptides may be combined in vaccines with a human EphA3 HLA (human leukocyte antigen) class II-binding peptide. EphA3 antigens, when presented by an antigen presenting cell having a HLA class II molecule. EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used for selectively induce activation and proliferation of CD4+T lymphocytes. EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used for selectively enriching a population of T lymphocytes. The peptides are also used for diagnosing a disorder characterized by EphA3 or EphA3 HLA binding peptide expression. The peptides are also used to treat a disorder characterized by EphA3 expression. The EphA3 binding peptides are useful in producing vaccines and antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel tyrosine kinase receptor, EphA3 human leukocyte antigen (HLA) class II binding peptide and nucleic acid encoding the receptor, useful for diagnosing and treating conditions characterized by expression of
                                                                                                                                        EphA3; HLA class II-binding peptide; human leukocyte antigen; antigen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 57; DB 21; Length 11; 100.0%; Pred. No. 0.0022; ive 0; Mismatches 0; Indels
                                                                      Antigenic peptide from tumour rejection antigen NY-ESO-1.
                                                                                                                                                                                     CD4+ T lymphocyte; tumour associated gene; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Boon-Falleur T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 35; 107pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB22790 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (LUDW-) LUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0121170.
99US-0158566.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-FEB-2000; 2000WO-US04326
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Coulie P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2000-572089/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 10; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB22790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
AAB22790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AX X X
```

Gaps

ö

ch 100.0%; Score 57; DB 20; Length 11; Similarity 100.0%; Pred. No. 0.0022; 10; Conservative 0; Mismatches 0; Indels

Best Local Similarity Matches 10; Conserv

Query Match

```
Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                         05-OCT-1998;
                                                                                  15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-JAN-2000.
                                                           13-APR-2000
                                                                                                                                                                                         Heirman C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY78469;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY78469
  QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                         charged organic carriers and a charged antiquent which are charged organic carrier and a charged antiquen which are electrostatically associated. The complex induces a cytotoxic T lymphocyte (CTL) response. The complex induces a cytotoxic T treat a disease in a mammal, where the complex/vaccine elicits, induces or prevents the onset or progression of the disease condition. In particular, the disease is a condition resulting form a microbial infection or cancer. Microbial infections which may be treated using the immunogenic complex include human immunodeficiency virus (HIV), hepatitis B, hepatitis C, tuberculosis or a parasitic condition, and cancers which may be treated include melanoma, prostate cancer or breast cancer. The complexes and vaccines simultaneously co-deliver antigen and adjuvant to the same antigen presenting cell, which is often essential for induction of appropriate immune responses. Sequences AAB22790-B22791 represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                            Immunogenic complexes comprising negatively charged organic carrier adjuvants and positively charged antigens for use as vaccines against microbial infection and cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAGE-A3; HLA class II; human leukocyte antigen; antibody; vaccine; cancer; human; tumour; tumour associated gene product.
                                           NY-ESO-1; epitope; CTL response; cytotoxic T lymphocyte; vaccine; immunogenic; adjuvant coadministration; microbial infection; tuberculosis; HIV; hepatitis B virus; hepatitis C virus; cancer.
                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel immunogenic complex comprising a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 57; DB 21; Length 11; 100.0%; Pred. No. 0.0022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tumour associated peptide antigen from NY-ESO-1 #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                       NY-ESO-1 peptide epitope, SEQ ID NO:1.
                                                                                                                                                                                                                                                                                                                                           Example 4; Fig 5a; 111pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB02630 standard; Peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exemplification of the invention
                                                                                                                                                                                      99AU-0008735.
                                                                                                                                                               17-FEB-2000; 2000WO-AU00110.
22-DEC-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-AUG-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 100.
Les 10; Conservative
                                                                                                                                                                                                                                                                      WPI; 2000-571930/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drane DP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11 AA;
                                                                                                                                                                                                                          (CSLC-) CSL LTD.
                                                                                                                 WO200048630-A1
                                                                                            Unidentified.
                                                                                                                                                                                                 27-JUL-1999;
                                                                                                                                                                                      17-FEB-1999;
                                                                                                                                        24 - AUG - 2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB02630;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                 Cox JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB02630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
õ
```

```
The present invention relates to MAGE-A3 (tumour associated gene product) human leukocyte antigen (HLA) class II-binding peptides (see AAB0256-B02595, and AAB02633-B02637). These peptides are presented to T cells in the context of HLA class II molecules. The peptides stimulate the activity and proliferation of CD4+ T Lymphocytes. The invention also includes nucleotide sequences encoding MAGE-3A peptides (see AAA37928 and AAA37938-A37940). The peptides and nucleotide sequences can be used to create antibodies against the MAGE-A3 peptides, the antibodies, peptides are used to diagnose or treat a disorder characterized by expression of MAGE-3, particularly cancer. The methods can also be used in the diagnosis of disorders associated with MAGE-3 expression. Included in the invention are other human tumour antigens (see AAB02596-B02637), and PCR primers used in the course of the invention (see AAB37929-A37937 and AAA37941-A37942).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New MAGE-A3 class II binding peptides, useful to diagnose and treat tumours, are fragments of MAGE-A3 which bind to and are presented to T lymphocytes by human leukocyte antigen class II molecules .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cancer; SSX family; SSX-1; SSX-3; SSX-4; SSX-5; NY-ESO-1; HLA binding; human leukocyte antigen; cytolytic T cell; CTL;
                                                                                                                                                                                                                                                                                                                                                                                                   Stroobant V, Boon-Falleur T, Van Der Bruggen P;
3, Van Snick J, Lethe B, Thielemans K, Corthals J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 57; DB 21; Length 11; 100.0%; Pred. No. 0.0022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cytostatic; melanoma; synovial sarcoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 33; 119pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY78469 standard; Peptide; 11 AA.
                                                                                                                                                                                                                                                                                          (LUDW-) LUDWIG INST CANCER RES. (UYVR-) UNIV VRIJE BRUSSEL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NY-ESO-1 derived peptide #1.
                                                                                                                                              99WO-US21230
                                                                                                                                                                                                                      98US-0166448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAY-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2000-317713/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLAWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11 AA;
WO200020581-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200000824-A1.
                                                                                                                                                                                                                                                                                                                                                                                               Chaux P, Str
Schultz ES,
```

```
(LUDW-) LUDWIG INST CANCER RES
            24-MAR-1999;
                                     17-APR-1998;
02-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAG67165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAG67165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A method has been developed for determining the possible presence of a cancer, which is not melanoma or synovial sarcoma. The method comprises assaying a sample taken from the subject to determine the expression of an SSX gene, and determining the expression as a determination of the possible presence of cancer. Expression of SSXI gene indicates possible presence of breast, endometrial, colorectal, lung, bladder or head-neck cancer. These cancers are also detected by SSX2 and SSX4 gene expression additionally indicates possible presence of lymphoma, renal call cancer, glloma and prostate cancer. Expression of SSX4 gene also indicates possible presence of ovarian or stomach cancer. SSX5 gene expression indicates the same cancers as SSX1, except cancer. Determining expression of SSX gene can be used to monitor progress of melanoma or synovial sarcoma, which is not cancer. The SSX-derived peptide complex stimulates proliferation of cytolytic calls. This is useful for treating cancer, especially melanoma. AAY78464 to AAY78469 represent specifically claimed HitA binding peptides for use in the method of the invention. AAX88452 to AAX88465 represent PCR primers used in the isolation of SSX genes in the exemplification of the present invention. AAX78650, and AAY79684 to AAX79669 to AAX79669 in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T-cell; cytotoxic; stimulation; proliferation; treatment; diagnosis; prevention; melanoma; breast cancer; ovarian cancer; prostate cancer; hepatoma; thyroid cancer; bladder cancer; lung cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cancer; tumour; antigen; MHC; major histocompatility complex; Class I;
                                                                                                                                                Determining the possible presence of breast, endometrial, colorectal, lung, bladder or head-neck cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                     Stevanovic S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 57; DB 21; Length 11;
Pred. No. 0.0022;
0; Mismatches 0; Indels
                                                                                     Rammensee G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human tumour antigen NY-ESO-1 peptide #4.
                                                                                   Pfreundschuh M,
                                                                                                                                                                                     Example 12; Page 21; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY52431 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
100.0%;
                                                          LUDW-) LUDWIG INST CANCER RES
           99WO-US14493.
                                  98US-0105839.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-FEB-2000 (first entry)
                                                                                   Sahin U, Pfre
ire A, Old LJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10; Conservative
                                                                                                                        WPI; 2000-170933/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 10; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gure A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11 AA;
          25-JUN-1999;
                                   26-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9953938-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-OCT-1999
                                                                                    Tureci O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY52431;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                 Chen Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lymphoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY52431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
tumour antigen, NV-ESO-1 (AAV52431) are peptides derived from the human tumour antigen, NV-ESO-1 (AAV52430) which contain the motif LLMWIT (AAV52441). These sequences can bind to MHC (major histocompatibility (C alass I HLA-A2 molecules, thereby stimulating proliferation of from an oscophagus squamous cell ancer Cabna library. Tissue from an oscophagus squamous cell ancer Cabna library. Tissue clocalisation studies revealed it to be expressed at high levels in normal ovary and testis but not in normal colon, kidney, liver, brain, oscophagus and skin. It was expressed in certain tumours and tumour cell lines with some degree of frequency - these included melanoma specimens and cell lines, and breast and bladder cancer specimens with expression in other tumour types being sporadic. These NY-ESO-1-derived peptides may be used in methods and compositions used for the treatment, diagnosis and prevention of cancer keptoma, ovarian cancer, thyroid cancer, bladder cancer, cancer, hepatoma, ovarian cancer, thyroid cancer, bladder cancer, cor lymphoma) and to stimulate the proliferation of T cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cancer testis tumour antigen; NY-ESO-1; LAGE-2; human leukocyte antigen; HLA; HLA binding peptide; major histocompatibility complex; MHC; tumour; cancer; testis tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cancer testis tumour antigen NY-ESO-1 derived CTL-stimulating peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel peptides which bind to MHC class I and MHC class II molecules, useful for therapeutic and diagnostic purposes
                                                                                                                                                                                                                                                          old LJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 11;
                                                                                                                                                                                                                                               Stockert E, Jager E, Chen Y, Scanlan M, Alexander K,
Gure A, Ritter G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 57; DB 21; 100.0%; Pred. No. 0.0022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAG67165 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 60; Page 18; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                 (LUDW-) LUDWIG INST CANCER RES
                                                                      98US-0062422.
98US-0165546.
99WO-US06875.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-JAN-2001; 2001WO-US02126.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22-FEB-2000; 2000US-0510635.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10; Conservative
                                                                                                                                                                                                                                                                                                                                                              WPI; 2000-038483/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200162917-A1.
```

```
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Demotte N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Luiten R,
                                                                                                                                                                                                                                                                                                                            AAE06849;
                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ното
                                                                                                                                                                                                                                                                                              AAE06849
 õ
                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New NY-ESO cancer peptide or MHC class II restricted {\tt T} cell epitopes, useful as immunogen and vaccine for inhibiting cancer in a mammal or as protection from metastasis
                                                 tumour associated antigen EY-ESO-1 (LAGE-2) useful
                                                                                              The present sequence represents a peptide which is derived from cancer testis tumour antigen NY-ESO-1 (also called LAGE-2). The peptide stimulates cytolytic T cell lines (CTLS). NY-ESO-1 is a molecule that is processed to at least one human leukocyte antigen (HLA) binding peptide, which binds to Class I and Class II major histocompatibility complex (MHC). NY-ESO-1 is expressed in tumour mRNA and in testis, but not normal colon, kidney, liver or brain tissue. The presence or level of expression of NY-ESO-1 may be assayed for the diagnosis of cancer, especially testis tumours.
                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                      class II restricted T cell epitope; MHC-II epitope; cancer antigen;
NY ESO-1 protein; CD4+ T lymphocyte; human leucocyte antigen; HLA;
tumour-specific humoral-mediated immunity; cancer; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to the identification and isolation of major histocompatibility (MHC) class II restricted T cell epitope (MHC-II \zeta_3
                                                                                                                                                                                                                                                                                                                                                                                                                           Human; major histocompatibility complex; MHC; vaccine; metastasis;
                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                  Length 11;
                                                                                                                                                                                                                       Human wildtype NY ESO-1 peptide, ESOp157-167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 14; Page 62; 134pp; English.
                                                                              Example 12; Page 24; 50pp; English.
                                                                                                                                                                                                                                                                                                                                              AAE07777 standard; peptide; 11 AA.
                                                           for diagnosing testicular tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JAN-2001; 2001WO-US02765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-JAN-2000; 2000US-0179004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-SEP-2000; 2000US-0237107
                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                     10; Conservative
         Boon-Falleur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rosenberg SA,
                                                 Genomic sequences of
                             WPI; 2001-550091/61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-496851/54
                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                         1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                     11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200155393-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       immunotherapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-AUG-2001
         Lethe B,
                                                                                                                                                                                                                                                                                                                                                                 AAE07777:
                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wang R,
                                                                                                                                                                                                                                                                                                                           11
                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                    AAE07777
                                                                                                                                                                                                                                                                                                                           RESULT
ö
```

```
cepitope) derived from the cancer antigen, NY ESO-1. The MHC-II epitopes from NY ESO-1 are recognised by CD4+ T lymphocytes in an human leucocyte antigen (HLA) class II restricted manner, in particular HLA-DR or HLA-DP restricted. The products of the gene are promising candidates for immunotherapeutic strategies for the prevention, treatment and diagnosis of patients with cancer. The cancer epitopes are useful as immunogen and vaccine to inhibit or to prevent cancer in a manmal by eliciting CD4+ T lymphocytes resulting in protection of the recipient from development of cancer and protection from metastasis, or by inhibiting the growth of cancer and protection from metastasis, or by inhibiting the growth of cancer and protection from metastasis, or by inhibiting the growth of cancer and protection from metastasis, or by inhibiting the growth of cancer and protection from metastasis, or by inhibiting the growth of cancer and protection gent to detect the presence of cancer, to enhance the generation of antibody and/or CD8+ T cell responses against any gainst tanget antigen and/or hapten and to induce tumour-specific humanal-mediated immunity against cancer. The present sequence is human wildtype NY ESO-1 peptide, ESOp157-167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to functional variants and isolated mimetics of a MAGE-Al human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, identified by methods described
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44 binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in diagnosis and treatment of a disorder characterized by expression of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tumour cell; immunostimulant; antigen presentation; cancer; melanoma; CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma; myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic; gene therapy; tumour rejection antigen; TRA; human; NY-ESO-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Boon-Falleur T, Van Der Bruggen P, Stroobant V;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 57; DB 22; Length 1 100.0%; Pred. No. 0.0022; 'ive 0: Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  major histocompatibility complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human NY-ESO-1 antigenic peptide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 28; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAE06849 standard; peptide; 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-JAN-2001; 2001WO-US02008.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-JAN-2000; 2000US-0177242.
25-OCT-2000; 2000US-0243212.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-488724/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200153833-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAGE-A1 or -A3
```

```
in the specification. MAGE genes encode tumour rejection antigens

(TRAS) presented to T lymphocytes by HIA-B35 and HIA-B44 molecules.

The MACE antigenic peptide acts by binding to HIA molecules

on tumour cells and stimulating recognition of these cells and thus signalling them to the immune system for destruction. The peptide when presented by HIA molecule induces the activation and stimulation of CDB+ cytotoxic T lymphocytes. The MAGE antigenic peptide is used to treat and diagnose disorders characterised by expression of MAGE-A1 or -A3. Disorders include cancers e.g melanomas, oesophageal, lung, head and neck, breast, colorectal, prostate, renal, bladder, head and neck, breast, colorectal, prostate, renal, bladder, bepatocellular, papillary thyroid and gastric carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian tumours. The present sequence is human NY ESO-1 tumour associated antigenic peptide is used in combination with peptides of the antigenic peptide is used in combination with peptides of the invention for inducing an immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel isolated NY-ESO-1 nonapeptide useful for determining if a cell presents human leukocyte antigen A2 molecule on its surface, binds to human leukocyte antigen molecules and provokes lysis by cytolytic T cells .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NY-ESO-1; human leukocyte antigen; HLA; lysis; cytolytic T cell; CTL; HLA-A2; T-cell sorter; tumor; immune tetramer.
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 57; DB 22; Length 11; 100.0%; Pred. No. 0.0022; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cerundolo V;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Valmori D, Cerottini J, Romero P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HLA-A2 binding NY-ESO-1 peptide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB85298 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Page 4; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (LUDW-) LUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-NOV-1999; 99US-0440621.
25-FEB-2000; 2000US-0514036.
29-SEP-2000; 2000US-0676005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-NOV-2000; 2000WO-US42010.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                      10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-451454/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UYOX-) UNIV OXFORD.
                                                                                                                                                                                                                                                                                                                                                                                                                                         1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                             11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200136453-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-MAY-2001
                                                                                                                                                                                                                                                                                                                  Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB85298;
                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB85298
       55555555555555555558x&
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

The invention provides NY-ESO-1 peptide derivatives which bind to human leukocyte antigen (HLA) molecules and provokes lysis by cytolytic T cells (CTLS). The NY-ESO-1 nonapeptide is of formula SLIAMITQX, where X is an amino acid having an uncharged polar side chain. The NY-ESO-1 peptide derivatives are useful for determining if a cell presents an HLA-A2

```
ö
                                                          The NY-ESO-1 peptides and analogues are useful therapeutically, for administration to a patient who is HLA-A2 positive and expresses NY-ESO-1 in connection with the pathology, as well as diagnostically, i.e. to determine if HLA-A2 positive cells are present, or if relevant CTLs are present. They are also useful for determining the presence of CTLs in a sample. The peptides are useful as T-cell sorters, when incorporated into can bind to HLA-A2 molecule.
molecule on its surface, by contacting a sample containing the cell with the peptide or its derivative, and determining binding between them, where the binding is indicative of HLA-A2 on the surface of the cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; cytostatic; immunogen; NY-ESO-1; human leukocyte antigen;
HLA; CD8; cytotoxic T lymphocyte; cancer; carcinoma; melanoma; myeloma;
brain tumour; sarcoma; vaccine; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The patent discloses antigenic peptides derived from MAGE-A12 protein and presented by human leukocyte antigens (HLAs). These antigenic peptides when presented by an antigen presenting cell having a HLA class I molecule, effectively induce the activation and proliferation of CD8+ cytotoxic T lymphocytes (CTLs). MAGE-A12 is useful for treating a subject having a disorder characterised by expression of MAGE-A12. The protein microarray comprising MAGE-A12 is useful for diagnosing a disorder, especially cancer, by determining the binding of an antibody, T lymphocytes or a HLA molecule isolated from the subject suspected of having the disorder characterised by the expression of MAGE-A12. MAGE-A12 is useful for treating cancers, including bladder carcinomas, melanomas, oesophageal, lung, head and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New antigenic peptides derived from MAGE-A12 polypeptides, useful for diagnosis and treatment of cancer, such as bladder, lung, breast,
                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                   ó
                                                                                                                                                                                                                                                                                                           100.0%; Score 57; DB 22; Length 11; 100.0%; Pred. No. 0.0022;
                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NY-ESO-1 human leukocyte antigen-A2-binding peptide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Heidecker L, Van Den Eynde B, Boon-Falleur T,
                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          brain, prostate and renal carcinomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 21; 69pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAE02119 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (LUDW-) LUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-OCT-1999; 99US-0160374.
01-FEB-2000; 2000US-0179570.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-OCT-2000; 2000WO-US28852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-JUL-2001 (first entry)
                                                                                                                                                                                                                                                                                                           Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-328498/34.
                                                                                                                                                                                                                                                                                                                                                                                           1 LLAWNITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                  11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200129220-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-APR-2001.
                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAE02119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAE02119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         88888888888888888
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                               g
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence represents a human NY-ESO-1 tumour rejection antigen precursor fragment which efficiently stimulates cytolytic T cell lines. WY-ESO-1 and SSX-2 polypeptides, or fragments of, bind to major histocompatibility complex (MHC) Class II molecules such as human leukocyte antigen determining region (HLA-DR) molecules and stimulate proliferation of helper T cells. The peptides can be administered to an HLA-DR positive subject in order to stimulate the helper T cells. An MHC class II HLA-DR-NY-ESO-1/SSX-2 complex expressed on the surface of a cell or present in free form is useful for this stimulation. The nucleic acid is useful for scenening for a cancerous condition, which involves conflacting a subject sample to a cell line transfected with the immunoreactive cell (helper T cell), where interaction is indicative of cancer. In addition, a sample from a patient (for example, a body fluid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NY-ESO-1; human; tumour rejection antigen precursor; SSX-2; MHC Class II; major histocompatibility complex; helper T cell; HLA-DR; cancer; human leukocyte antigen-determining region; disease progression; disease regression; disease onset; body tissue; body fluid; enzyme label; radioactive label; monoclonal antibody; cytolytic T cell line.
neck, breast, colorectal carcinomas, myelomas, brain tumours, sarcomas, prostate and renal carcinomas and to produce antibodies. MAGE-A12 antibodies are useful for diagnosing disorders characterised by expression of MAGE-A12 immunogenic polypeptide. These MAGE-A12 peptides are used as vaccines. They are also used in gene therapy. The present sequence is an antigenic peptide derived from NY-ESO-1. This peptide which is characteristic of tumours is presented by HLA-A2 MHC (major histocompatibility complex) and is recognised by CTLS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Polypeptides binding to major histocompatibility complex class II human leukocyte antiquen-determining region molecule having amino acid sequence found in tumour rejection antiqen precursor used for stimulating proliferation of helper T cells.
                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                           .;
0
                                                                                                                                                                                                                                                   Length 11;
                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                     . <del>(</del>)
                                                                                                                                                                                                                                               100.0%; Score 57; DB 22;
100.0%; Pred. No. 0.0022;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytolytic T cell line stimulator peptide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sahin U, Pfreundschuh M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 12; Page 17; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU01536 standard; Peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-SEP-2000; 2000WO-US26411.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0408036.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-JUL-2001 (first entry)
                                                                                                                                                                                                                                                                                         10; Conservative
                                                                                                                                                                                                                                                              Best_Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                       11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200123560-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tureci O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU01536;
                                                                                                                                                                                        Seguence
                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                     15
                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 1
  8888888888888
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                        a
```

```
ö
or tissue) can be monitored for the amount of the complex present in the bloodstream. This is useful for determining regression, progression or onset of a cancerous condition. The method involves contacting the sample with a radioactive labelled or enzyme labelled monoclonal antibody which specifically binds with the complex.
                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                 ;
0
                                                                                                                                                              Length 11;
                                                                                                                                                                                                 Indels
                                                                                                                                                              DB 22;
                                                                                                                                                            100.0%; Score 57; DB 22; 100.0%; Pred. No. 0.0022;
                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                        Search completed: July 16, 2002, 07:45:50 Job time: 358 sec
                                                                                                                                                                                                 Conservative
                                                                                                                                                            Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                   1 LLMWITQCFL 10
                                                                                                                                                                                                                                                         11 AA;
                                                                                                           Sequence
   88888888
                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                    qq
```

```
GenCore version 4.5

Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: July 16, 2002, 07:43:02; Search time 477.3 Seconds

(without alignments)
7.374 Million cell updates/sec

Title: US-09-165-546A-7

Perfect score: 57
Sequence: 1.LLMWITQCFL 10

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 3502263 seqs, 351980561 residues

Total number of hits satisfying chosen parameters: 3502263

Minimum DB seq length: 2000000000

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 100%
Listing first 45 summaries
```

Database : Pending\_Patents\_AA\_Main:\*

1: /cgn2\_6/ptodata/2/paa/PG06\_COMB.pep:\*
2: /cgn2\_6/ptodata/2/paa/US06\_COMB.pep:\*
3: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
4: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
5: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
6: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
7: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
8: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
10: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
11: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
12: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
13: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
13: /cgn2\_6/ptodata/2/paa/US08\_COMB.pep:\*
14: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
15: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
16: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
16: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
18: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
19: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
20: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
21: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
22: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
23: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
24: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
25: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
26: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
26: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
26: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*
26: /cgn2\_6/ptodata/2/paa/US09\_COMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Score Match Length DB ID

57 100.0 10 15 US-09-165-546A-7
57 100.0 10 19 US-09-529-206-92
57 100.0 10 19 US-09-529-206B-92
57 100.0 10 19 US-09-529-206B-92
57 100.0 10 19 US-09-529-206B-92
57 100.0 11 PCT-US90-06875-4
57 100.0 11 PCT-US90-06875-4
57 100.0 11 15 US-09-165-546A-4
57 100.0 11 15 US-09-165-546A-4
58 Quence 4, Appli

õ

Appli Appli	Q.
40 4 1 4 8 1 4 4 1 4 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1	BIND
	<b></b>
edineuce edi	Gerr
antes of the control	o, tter, s TO 11, WE Je
	rao, Ritter, Geri ING TO SO-1, WHICH MOLECULES,
	rao NDING -ESO- II MO
	ke; Chen, Yao, d, Lloyd, Ritte CORRESPONDING T ES OF NY-ESO-1, C CLASS II MOLE LP
1004 4811892 02 7 7 6 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	P. C. P. C. P. S. C.
1011 1011 1011 1011 1011 1011 1011 101	S CO Old, S CO NCES MHC . 14
9-336-091-41 9-408-0368-4 9-408-0368-4 9-514-749-33 9-514-749-33 9-697-6008-1 9-697-884-79 9-75-160-42 9-75-160-42 9-76-884-79 9-76-884-79 9-76-884-79 9-76-884-79 9-71-884-79 9-71-884-79 9-71-884-79 9-71-884-79 9-71-884-79 9-71-884-79 9-71-884-79 9-71-884-79 9-71-88-9 9-71-88-9 9-71-88-9 9-71-82-70 9-71-98-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-88-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8 9-71-798-8	MENTS ECT E 11, O TIDES EQUEN AND MI RSKI :: RSKI :: 10ch,
82222222222222222222222222222222222222	ALIGNMENT 46A 346A 317; Jager, TED PEPTIDE ASI I AND THEREOF 6 JAWORSKI SNUe 5, 3.5 inch 5, 3.5 inch 5, 3.5 inch 75, 5 1998
	ALIC 46A 11. Ja 12. Ja ASCI ASCI HEREG 5 JAN nue 5 JAN 00S 998
	der Gus Gus Gus THI THI THI THI THI THI THI THI TO O 09
L1111222222222222222222222222222222222	9916 18501. 1861. 1965. 1965. 1967. 1967. 1967. 1968. 1968. 1969.
000000000000000000000000000000000000000	on US/( th, Ale tan, Me lan, M
найнайнайнайнайн т	5-546A-7 ce 7, Application US RAL INFORMATION: APPLICANT: Knuth, A Canlan, TITLE OF INVENTION: CORRESPONDENCE ADDR ADDRESSEE: FUL STREET: 666 FI CTTY: New Yor COUNTRY: USA ZIP: 10158 COMPUTER READABLE F MEDIUM TYPE: D COMPUTER
000000000000000000000000000000000000000	Application FORMATION: CANT: Knuth, CALLAI OF INVENTIC CALLAI OF SEQUENC SPONDENCE AL ADDRESSEE: E STREET: 666 STREET: 675 STATE: New Y COUNTRY: US CITY: New Y CI
	7 ADDITICS ORMATI ANT: K OF INV OF INV TATE: COUNTRY OUNTRY: COUNTRY TATE: COUNTRY TAT
	APPLICANT COANT COANT COANT COANT COF COF COF COF COCOMPRODUCT COCOMPR
0.000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	DOC CC C
100 100 100 100 100 100 100 100 100 100	11.0 12
	ESULT S-09-upos GE
	Z B

us-09-165-546a-7.open.rapm

```
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                     Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                    1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-529-206B-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US00-04326-42
                                                                                                                                                      US-09-529-206A-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-529-206B-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 92
LENGTH: 10
                                                                 SEQ ID NO 92
LENGTH: 10
                                                                                                              TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                                                                                                                                                    pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 92, Application US/09529206
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene;
TITLE OF INVENTION: Encoding Same
FILE REFERENCE: 20264269PC
CURRENT APPLICATION NUMBER: US/09/529,206
CURRENT APPLICATION NUMBER: US/09/529,206
PRIOR APPLICATION NUMBER: US/06/13
PRIOR FILING DATE: 1997-10-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 92, Application US/09529206A
GENERAL INFORMATION:
APPLICANT: Wang Rong, Fu
APPLICANT: Wang Rong, Steven
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Encoding Same
FILE REFERENCE: 20264269031
CURRENT APPLICATION NUMBER: US/09/529, 206A
CURRENT FILING DATE: 2000-06-13
PRIOR PRILING DATE: 2000-06-21
PRIOR PELICATION NUMBER: PCT/US98/19609
PRIOR PELICATION NUMBER: US/09/21
PRIOR APPLICATION NUMBER: US/00/061,428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 57; DB 15; Length 10; 100.0%; Pred. No. 0.099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  th 100.0%; Score 57; DB 19; Length 10; Similarity 100.0%; Pred. No. 0.099; 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
               FILING DATE: September 15, 1997

PILING DATE: September 15, 1997

PILING DATE: 03-October-1996

ATTORNEY/AGENT INFORMATION:

NAME: HANSON, NOTMAN D.

REGISTATION NUMBER: 30, 946

REFERENCE/DOCKET NUMBER: LUD 5466.3

TELECOMMUNICATION INFORMATION:

TELEPHONE: (212) 688-9200

TELEPHONE: (212) 888-3884

INFORMATION FOR SEQ ID NO: 7:

SEQUENCE CHARACTERISTICS:

LENGTH: 10 amino acids

TYPE: amino acid

TYPE: amino acid

TOPOLOGY: linear

SEQUENCE DESCRIPTION: SEQ ID NO: 7:

US-09-165-546A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
APPLICATION NUMBER: 08/937,263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 106
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 92
LENGTH: 10
                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Homo sapiens US-09-529-206-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-529-206A-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
US-09-529-206-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
```

```
Sequence 92, Application US/09529206B

Sequence 92, Application US/09529206B

GENERAL INFORMATION:

APPLICANT: Wang KONG, Fu

TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene

TITLE OF INVENTION: Encoding Same

TITLE OF INVENTION: Encoding Same

FILE REFERENCE: 20264269US1

CURRENT APPLICATION NUMBER: US/09/529,206B

CURRENT FILING DATE: 2000-06-13

PRIOR PLILICATION NUMBER: PCT/US98/19609

PRIOR PLILING DATE: 1999-09-21

PRIOR PLILING DATE: 1997-10-08

NUMBER OF SEO ID NOS: 127

SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 42, Application PC/TUS0004326
GENERAL INFORMATION:
APPLICANT: Chiari, Rita
APPLICANT: Coulie, Pierre G.
APPLICANT: Cono.Falleur, Thierry
TITLE OF INVENTION: TYROSINE KINASE RECEPTOR Epha3 ANTIGENIC PEPTIDES
FILE REFERENCE: L0461/7057W0
CURRENT APPLICATION NUMBER: PCT/US00/04326
CURRENT PILING DATE: 2000-02-18
EARLIER APPLICATION NUMBER: US 60/121,170
EARLIER PILING DATE: 1999-02-2
EARLIER PILING DATE: 1999-10-08
MUMBER OF SEQ ID NOS: 63
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 57; DB 19; Length 10; 100.0%; Pred. No. 0.099; Live 0; Mismatches 0; Indels
100.0%; Score 57; DB 19; Length 10; 100.0%; Pred. No. 0.099; tive 0; Mismatches 0; Indels
```

GENERAL INFORMATION:

ö

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                           DB 1; Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 57; DB 1; Length 11; 100.0%; Pred. No. 0.11; 0; Mismatches 0; Indels
                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5466.3
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US99/06875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 0S 08/752,182
FILING DATE: 03-October-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US 08/752,182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 4, Application US/09165546A
                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGENT INFORMAN D. Hanson, Norman D. MTMRER: 30,946
                                          100.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (212) 689-9200
TELEFAX: (212) 838-3884
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING SYSTEM: PC-DOS
                                        Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                1 LLMWITQCFL 10
                                                                                                              2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 LLAWITOCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                          IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
PCT-US00-04326-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TOPOLOGY:
PCT-US99-06875-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER:
                                                                                                                                                                   RESULT 6
PCT-US99-06875-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 7
US-09-165-546A-4
                                                                                                ò
                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
```

```
ö
APPLICANT: Knuth, Alexander; Jager, Elke; Chen, Yao,
Canlan, Matt; Gure, Ali, Old, Lloyd, Ritter, Gerd
TITLE OF INVENTION: ISOLATED PEPTIDES CORRESPONDING TO
ANINO ACID SEQUENCES OF NY-ESO-1, WHICH BIND TO
MHC CLASS I AND MHC CLASS II MOLECULES, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Van Snick, Jacques
APPLICANT: Leth, Bernard
APPLICANT: Leth, Bernard
APPLICANT: Chaux, Pascal
APPLICANT: Chaux, Pascal
APPLICANT: wan der Bruggen, Pierre
TITLE OF INVENTION: MAGE-Al PEPTIDES PRESENTED BY HLA CLASS
TITLE OF INVENTION: IN MOLECULES
FILE REFERENCE: L0461/7063
CURRENT APPLICATION NUMBER: US/09/336,091
CURRENT APPLICATION NUMBER: 172
CURRENT FILING DATE: 1999-06-18
NUMBER OF SEQ ID NOS: 72
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                   Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 57; DB 15; 100.0%; Pred. No. 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,546A
FILING DATE: 02-0ct-1998
CLASSIFICATION: 530
PRIOR APPLICATION NUMBER: 09/062,422
FILING DATE: April 17, 1998
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
APPLICATION NUMBER: US 08/752,182
FILING DATE: September 15, 1997
APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-0ctober-1996
ATTORREY/AGENT INCREATION:
                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: FULBRIGHT & JAWORSKI LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: LUD 5466.3 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Hanson, Norman D. REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                              USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FELEPHONE: (212) 688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DOS SOFTWARE: WordPerfect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 41, Application US/09336091 GENERAL INFORMATION:
                                                                                                                                                                                                                                  STREET: 666 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  838-3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (212) 838-1
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                            CITY: New York City
                                                                                                                                                                                                                                                                                                                        ZIP: 10158
COMPUTER READABLE FORM:
MEDIUM TYPE: Diske
                                                                                                                                                          NUMBER OF SEQUENCES: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                   STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM
                                                                                                                                                                                                                                                                                                           COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLAWITOCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-165-546A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-336-091-41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
```

```
Sequence 4, Application US/09510635A
GENERAL INFORMATION:
APPLICANT: Bernard Leth, and Thierry Boon-Falleur
TITLE OF INVENTION: ISOLATED GENOMIC SEQUENCES WHICH ENCODE NY-ESO-1 AND USES
TITLE OF INVENTION: THEREOF
FILE REFERENCE: LUD 5633
CURRENT APPLICATION NUMBER: US/09/510,635A
CURRENT FILING DATE: 2001-08-28
PRIOR FILING DATE: 1998-10-2
NUMBER OF SEQ ID NOS: 18
                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                   US-09-440-621-1

Sequence 1, Application US/09440621

Sequence 1, Application US/09440621

Sequence 1, Application:

GENERAL INFORMATION:

APPLICANT: Cerottini, Jean-Charles

APPLICANT: Romero, Pedro

TILE OF INVENTION: Derivatives of NY-ESO-1 Peptides and Uses Therof

FILE REFRENCE: LUD 5629

CURRENT FILING DATE: 1999-11-15

CURRENT FILING DATE: 1999-11-15

EARLIER PILING DATE: 1998-10-02

EARLIER FILING DATE: 1998-04-17

EARLIER PILING DATE: 1998-04-17

EARLIER PILING DATE: 1996-04-17

EARLIER PILING DATE: 1996-04-17

EARLIER PILING DATE: 1996-04-17

EARLIER PILING DATE: 1996-04-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
      Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 57; DB 18; 1
100.0%; Pred. No. 0.11;
live 0; Mismatches 0;
100.0%; Score 57; DB 18; 100.0%; Pred. No. 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 57; DB 19;
100.0%; Pred. No. 0.11;
iive 0; Mismatches 0;
                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-510-635A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                  1 LLMWITQCFL 10
                                                                                                        1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-510-635A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 4
LENGTH: 11
                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09408036B
GENERAL INFORMATION:
APPLICANT: Tureci, Ozlem
APPLICANT: Sahin, Ugur
APPLICANT: Sahin, Ugur
APPLICANT: Shown isolated Peptides Which Bind to MHC Class II Molecules and Uses TITLE OF INVENTION: 180-19-09-29
FILE REFERENCE: LUD 5624
CURRENT FILING DATE: 1999-06-25
PRIOR FILING DATE: 1999-06-25
PRIOR FILING DATE: 1998-10-02
NUMBER OF SEQ ID NOS: 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                           Sequence 79, Application US/09396315
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Schultz, Erwin S.
APPLICANT: Child S.
APPLICANT: Chaux, Pascal
APPLICANT: Stroobart, Vincent
APPLICANT: Stroobart, Vincent
APPLICANT: Thielemans, Kris
APPLICANT: Thielemans, Kris
APPLICANT: Wander Brugen, Pierre
APPLICANT: Wander Brugen
FILE REFERENCE: L0464/7067
FILE REFERENCE: L0464/7067
CURRENT APPLICATION NUMBER: US/09/396,315
CURRENT APPLICATION NUMBER: US/09/396,315
CURRENT FILING DATE: 1999-09-15
NUMBER OF SEQ ID NOS: 89
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 79
LENGTH: 11
                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                   ö
                                                                                                                      100.0%; Score 57; DB 17; Length 11; 100.0%; Pred. No. 0.11; 0; Indels ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 57; DB 17; Length 11; 100.0%; Pred. No. 0.11; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                      Query Match 100.

Best Local Similarity 100.

Matches 10; Conservative
                                        ; ORGANISM: Homo sapiens US-09-336-091-41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Homo sapiens US-09-396-315-79
                                                                                                                                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 LLAWITOCFL 11
                                                                                                                                                                                                                              2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                              US-09-396-315-79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-408-036B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-408-036B-4
LENGTH: 11
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 4
LENGTH: 11
                                                                                                                                                                                                                                           Op
                                                                                                                                                                                                       Óλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
```

```
Sequence 43, Application US/09692401

| GENERAL INFORMATION:
| APPLICANT: Heddecker, Leonora
| APPLICANT: Waldecker, Leonora
| APPLICANT: Waldecker, Francis
| TITLE DF INVENTION: MAGE-A12 ANTIGENIC PEPTIDES AND USES THEREOF
| FILE REPERENCE: L0461/7097
| CURRENT APPLICATION NUMBER: US/09/692,401
| CURRENT FILING DATE: 2000-10-19
| EARLIER APPLICATION NUMBER: US 60/160,374
| EARLIER APPLICATION NUMBER: US 60/179,570
| EARLIER FILING DATE: 2000-20-01
| WUMBER OF SEQ ID NOS: 56
| WUMBER OF SEQ ID NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 57; DB 20; Length 1 100.0%; Pred. No. 0.11; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Search completed: July 16, 2002, 07:56:35 Job time: 813 sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Homo sapiens US-09-692-401-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LLMWITOCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 LLMWITQCFL 11
                                                      US-09-692-401-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 43
LENGTH: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                   APPLICANT: ROSEIZABLION
APPLICANT: PYKETT, Mark J.
APPLICANT: PYKETT, Mark J.
APPLICANT: PYKETT, Mark J.
APPLICANT: PSCADDEN, David T.
APPLICANT: POZNANSKY, Mark C.
TITLE OF INVENTION: LYMPHOID TISSUE-SPECIFIC CELL PRODUCTION
TITLE OF INVENTION: EROM HEMATOPOIETIC PROGENITOR CELLS IN THREE-DIMENSIONAL
TITLE OF INVENTION: DEVICES
TITLE OF INVENTION: DEVICES
CURRENT APPLICATION NUMBER: US/09/574,749
CURRENT FILING DATE: 1099-11-12
PRIOR PAPLICATION NUMBER: PCT/US99/26795
PRIOR PAPLING DATE: 1999-11-12
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 33
LENGTH: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1, Application US/09676005B
GENERAL INFORMATION:
APPLICANT: Valmori, Danila
APPLICANT: Valmori, Danila
APPLICANT: Cerrolini, Jean, Charels
APPLICANT: Cerrolini, Jean, Charels
APPLICANT: Cerrolini, Jean, Charels
TITLE OF INVENTION: Derivatives of NY-ESO-1 Peptides and Uses Therof
FILE REFERENCE: LUD 5629.2
CURRENT PILING DATE: 2000-09-29
PRIOR APPLICATION NUMBER: US/09/514,036
PRIOR PILING DATE: 1999-11-15
PRIOR FILING DATE: 1999-11-15
PRIOR FILING DATE: 1998-10-02
PRIOR FILING DATE: 1998-10-02
PRIOR PRIOR APPLICATION NUMBER: US 09/062,422
PRIOR APPLICATION NUMBER: US 08/725,162
PRIOR PILING DATE: 1996-10-03
NUMBER OF SEQ ID NOS: 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 57; DB 19; Length 11; 100.0%; Pred. No. 0.11; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.0%; Score 57; DB 20; Length 11; Best Local Similarity 100.0%; Pred. No. 0.11; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORMATION: Homo Sapiens source US-09-574-749-33
                        Sequence 33, Application US/09574749 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 LLMWITOCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
US-09-676-005B-1
US-09-574-749-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-676-005B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
```

Gaps

;

DB 20; Length 11;

1

```
131, App
1, Appli
34, Appl
197, App
                                                                                                                                                                                                                      July 16, 2002, 07:43:42; Search time 63.47 Seconds (without alignments) 17.524 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4233, Ap
110, App
971, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10391, A
10389, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 130, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sedineuroe 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pending_Patents_AA_New:*

1. /cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep:*

2. /cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep:*

4. /cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep:*

5. /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*

5. /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*

6. /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*

7. /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*
GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-574-749B-33
US-10-177-277-130
US-10-177-277-130
US-10-177-277-130
US-09-807-512-4
US-10-117-937-74
US-10-117-937-74
US-10-117-937-75
US-10-117-937-75
US-10-117-937-75
US-10-177-277-123
US-10-177-277-123
US-09-574-749B-34
US-10-177-277-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-935-625-10391
US-09-935-625-10389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-935-625-9112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      344541 seqs, 111227333 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maximum Match 100%
Listing first 45 summaries

    protein search, using sw model

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                   US-09-165-546A-7
57
1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                    Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB :
Maximum DB :
                                                                                                                                                         OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
```

```
Sequence 130, Application US/09344040C
Sequence 130, Application US/09344040C
Seguence 130, Application US/09344040C
SERBRAL INFORMATION:
APPLICANT: Sahin, Ugur
APPLICANT: Ramensee, Hans Georg
APPLICANT: Remensee, Hans Georg
APPLICANT: Stevanovic, Stefan
TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Deter
TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene
TITLE OF INVENTION: Gene, and Uses Thereof
TITLE OF INVENTION: Gene, and Uses Thereof
TITLE OF INVENTION UNMBER: US/09/344,040C
CURRENT FILING DATE: 1999-06-25
PRIOR APPLICATION NUMBER: US 09/105,839
PRIOR APPLICATION NUMBER: US 08/851,130
PRIOR PILING DATE: 1999-06-06
PRIOR FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 132
SEQ ID NO 130
11, Ap
116, Ap
116, Ap
115, Ap
1114, Ap
2801, Ap
8038, Ap
67, Appl
7745, Appl
4, Appli
4, Appli
4, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: PYKETT, Mark J.
APPLICANT: PYKETT, Mark J.
APPLICANT: POZNANSKT, Mark J.
APPLICANT: POZNANSKT, Mark J.
TITLE OF INVENTION: LYMPHOLD TISSUE-SPECIFIC CELL PRODUCTION
TITLE OF INVENTION: FROM HEMATOPOIETIC PROGENITOR CELLS IN THREE-DIMENSIONAL
TITLE OF INVENTION: DEVICES
FILE REPERENCE: C1005/7012/KA/FRG
CURRENT APPLICATION NUMBER: US/09/574,749B
                                                                                                                                                                         4,
643, A<sub>Pt</sub>
3115, Ap
799, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                       Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
    sednence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 57; DB 5; Length 11; Best Local Similarity 100.0%; Pred. No. 0.0054; Matches 10; Conservative 0; Mismatches 0; Indels
US-09-935-625-9111
US-09-935-625-9110
US-09-935-625-9116
US-09-935-625-9116
US-09-935-625-9114
US-09-935-625-9114
US-09-935-625-9114
US-09-935-625-9114
US-09-935-625-9114
US-00-340-039-2801
US-10-117-477-67
US-10-117-477-67
US-10-117-477-35
US-10-115-881-7745
PCT-USO2-10159-4
US-10-112-645-4
PCT-USO2-09921-643
US-10-104-047-3115
US-10-1155-881-30322
PCT-USO2-05748-26
                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
US-09-574-749B-33
Sequence 33, Application US/09574749B
; GENERAL INFORMATION:
APPLICANT: ROSENZWEIG, Michael
  297
343
1054
11156
11194
1240
492
635
86
89
89
275
275
275
307
504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Homo sapiens US-09-344-040C-130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-344-040C-130
    LENGTH: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ~
    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

```
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4, Application US/09807512
GENERAL INFORMATION:
APPLICANT: Schrier, Corlien
APPLICANT: Heider, Karl-Heinz
APPLICANT: Klade, Christoph
TITLE OF INVENTION: Camel, An Alternative Translation Product of the Tumor
TITLE OF INVENTION: Antigen-Lage 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 57; DB 1; Length 180; 100.0%; Pred. No. 0.046; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 57; DB 6; Length 28; 100.0%; Pred. No. 0.011; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Ludwig Institute for Cancer Research
APPLICANT: Cornell Research Foundation, Inc.
APPLICANT: Chen, Yao-Tseng
APPLICANT: Chen, Yao-Tseng
APPLICANT: Old, Lloyd
APPLICANT: Scanlan, Matthew
APPLICANT: Stockert, Elizabeth
APPLICANT: DATE: 2000-05-02
FTILE REFERENCE: L00461/70105W0(JRV)
CURRENT APPLICATION NUMBER: PCT/US02/13994
CURRENT FILING DATE: 2000-05-02
PRIOR APPLICATION NUMBER: US 09/849,602
PRIOR FILING DATE: 2001-05-04
NUMBER: OF SEQ ID NOS: 30
SOFTWARE: PatentIn version 3.0
  APPLICANT: XIE, Zhidong
TITLE OF INVENTION: EPITOPE SEQUENCES
FILE REPERENCE: CTLIMM.027A
CURRENT APPLICATION NUMBER: US/10/117,937
CURRENT FILING DATE: 2002-04-04
PRIOR APPLICATION NUMBER: US 60/282,211
PRIOR FILING DATE: 2001-04-06
PRIOR FILING DATE: 2001-11-07
PRIOR PILING DATE: 2001-11-07
PRIOR FILING DATE: 2001-11-07
PRIOR FILING DATE: 2001-11-07
SOFTWARE: PASTSEQ FOR WINGER: US 60/363,210
PRIOR FILING DATE: 2002-03-07
SOFTWARE: PASTSEQ FOR WINGOWS VERSION 4.0
SSOTTWARE: PASTSEQ FOR WINGOWS VERSION 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 30, Application PC/TUS0213994 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens
US-10-117-937-255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 LLMWITOCFL 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 5
PCT-US02-13994-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PCT-US02-13994-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-807-512-4
                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 130, Application US/1017277

Sequence 130, Application US/1017277

Sequence 130, Application US/1017277

APPLICANT: Sanin, Ugur

APPLICANT: Sanin, Ugur

APPLICANT: Ramensee, Hans Georg

APPLICANT: Ramensee, Hans Georg

APPLICANT: Ramensee, Hans Georg

APPLICANT: Ramensee, Hans Georg

APPLICANT: Remensee, Hans Georg

APPLICANT: Remensee, Hans Georg

APPLICANT: Stevanovic, Stefan

ITILE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Determin

ITILE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene a

ITILE OF INVENTION: Gene, and Uses Thereof

FILE REFERENCE: LUS 5556.1

CURRENT FILING DATE: 1999-06-25

PRIOR FILING DATE: 1999-06-25

PRIOR FILING DATE: 1999-06-26

PRIOR FILING DATE: 1999-06-26

PRIOR FILING DATE: 1999-06-26

PRIOR FILING DATE: 1999-06-26

NUMBER OF SEQ ID NOS: 132

SEQ ID NO 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 57; DB 5; Length 11; 100.0%; Pred. No. 0.0054; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 57; DB 6; Length 11; 100.0%; Pred. No. 0.0054; Live 0; Mismatches 0; Indels
CURRENT FILING DATE: 2002-05-31
PRIOR APPLICATION NUMBER: US 60/107,972
PRIOR FILING DATE: 1998-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SSOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 33
                                                                                                                                                                                                                                                                                                                                               ; FEATURE:
; OTHER INFORMATION: Homo Sapiens source
US-09-574-749B-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 4
0S-10-117-937-255
Sequence 555, Application US/10117937
GENERAL INFORMATION:
APPLICANT: CTL IMMUNO THERAPIES CORP.
APPLICANT: BIRMEN, John, J.L.
APPLICANT: LIU, Liping
                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Homo sapiens
US-10-177-277-130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 LLAWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
```

Qy

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                          Query Match 100.0%; Score 57; DB 6; Length 180; Best Local Similarity 100.0%; Pred. No. 0.046; Matches 10; Conservative 0; Mismatches . 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.0%; Score 57; DB 6; Length 180;
Best Local Similarity 100.0%; Pred. No. 0.046;
Matches 10; Conservative 0; Mismatches 0; Indels
      PRIOR APPLICATION NUMBER: US 60/282,211
PRIOR FILING DATE: 2001-04-06
PRIOR APPLICATION NUMBER: US 60/337,017
PPRIOR PILING DATE: 2001-11-07
PRIOR APPLICATION NUMBER: US 60/363,210
PRIOR FILING DATE: 2002-03-07
NUMBER OF SEQ ID NOS: 602
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 74
LENGTH: 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Stockert, Elisabeth
APPLICANT: Gure, Ali
APPLICANT: Chen, Yao-Tseng
APPLICANT: Old, Lloyd
TITLE OF INVENTION: Breast Cancer Antigens
FILE REFERENCE: L00461/70130(JRV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 602
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 69, Application US/10146473
GENERAL INFORMATION:
APPLICANT: Scanlan, Matthew
APPLICANT: Gout, Ivan
                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens US-10-117-937-74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapiens US-10-117-937-75
                                                                                                                                                                                                                                                                                                                                                                                                                                                  158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-117-937-75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 10
US-10-146-473-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 75
LENGTH: 180
                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-807-512-8

Sequence B, Application US/09807512

GENERAL INFORMATION:
APPLICANT: Schrier, Peter I.
APPLICANT: Aarnoudse, Corlien
APPLICANT: Heider, Karl-Heinz
APPLICANT: Heider, Corristoph
TITLE OF INVENTION: Camel, An Alternative Translation Product of the Tumor
FILE REFERENCE: 0652.2200000
CURRENT APPLICATION NUMBER: US/09/807,512
CURRENT FILING DATE: 2001-04-16
PRIOR PELING DATE: 1999-10-15
PRIOR FILING DATE: 1999-10-15
PRIOR FILING DATE: 1999-10-16
NUMBER OF SEQ ID NOS: 28
SOFTWARE: PatentIn Ver. 2.1
SED ID NO 8
IFRARENT 100
                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                           Length 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 57; DB 5; Length 180; 100.0%; Pred. No. 0.046;
                                                                                                                                                                                                                                                                                                                                         100.0%; Score 57; DB 5; Length 18
100.0%; Pred. No. 0.046;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
FILE REFERENCE: 0652.2200000
CURRENT APPLICATION NUMBER: US/09/807,512
CURRENT FILING DATE: 2001-04-16
FRIOR APPLICATION NUMBER: PCT/EP99/07832
PRIOR FILING DATE: 1999-10-15
PRIOR FILING DATE: 1998-10-16
NUMBER OF SEQ ID NOS: 28
SOFTWARE: PATENTIN VET: 2.1
SOFTWARE: PATENTIN VET: 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 74, Application US/10117937
GENERAL INFORMATION:
APPLICANT: CTL IMMUNO THERAPIES CORP.
APPLICANT: SIMARD, John, J.L.
APPLICANT: LID, Liping
APPLICANT: LIU, Liping
TITLE OF INVENTION: EPITOPE SEQUENCES
FILE REFERENCE: CTLIAM.027
FILE REPERENCE: CTLIAM.027
CURRENT APPLICATION NUMBER: US/10/117,937
CURRENT FILING DATE: 2002-04-04
                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                      TYPE: PRT
CORGANISM: Homo sapiens
US-09-807-512-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens
US-09-807-512-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                      158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                               1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 8
US-10-117-937-74
```

```
Sequence 131, Application US/09344040C
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Tureci, Ozlem
APPLICANT: Sahin, Ugur
APPLICANT: Ramensee, Hans Georg
APPLICANT: Stevanovic, Stefan
APPLICANT: Stefan
APPLICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 24, Application PC/TUS0205748
GENERAL INFORMATION:
APPLICANT: Actuary, Ann
APPLICANT: Heiskal, Marja
APPLICANT: Heiskal, Marja
APPLICANT: Beterson, Micheel
APPLICANT: Jackson, Micheel
TITLE OF INVENTION: A CELL THERAPY METHOD FOR THE TREATMENT OF TUMORS
FILE REFERENCE: ORT-1557
CURRENT APPLICANION NUMBER: PCT/US02/05748
CURRENT FILING DATE: 2002-02-19
NUMBER OF SEQ ID NOS: 42
SOFTWARE: Patentin version 3.1
SEQ ID NO 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.1e+05;
nes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93.0%; Score 53; DB 6; Le
100.0%; Pred. No. 3.1e+05;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82.5%; Score 47; DB 1;
100.0%; Pred. No. 3.1e+0:
iive 0; Mismatches
       PRIOR APPLICATION NUMBER: US/09/344,040
PRIOR FILING DATE: 1999-06-25
PRIOR APPLICATION NUMBER: US 09/105,839
PRIOR FILING DATE: 1998-06-26
PRIOR APPLICATION NUMBER: US 08/851,130
PRIOR PILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 132
SEQ ID NO 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.(
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapiens
PCT-US02-05748-24
                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens US-10-177-277-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 LAWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-344-040C-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US02-05748-24
                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-344-040C-123

Sequence 123. Application US/09344040C

GENERAL INFORMATION:

APPLICANT: Tureci, Ozlem

APPLICANT: Sahin, Ugur

APPLICANT: Sahin, Ugur

APPLICANT: Ramensee, Hans Georg

APPLICANT: Ramensee, Hans Georg

APPLICANT: Ramensee, Hans Georg

APPLICANT: Stevanovic, Stefan

TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Determin

TITLE OF INVENTION: Gene, and Uses Thereof

FILE REPERENCE: LUD 5556.1

CURRENT APPLICATION NUMBER: US 09/344,040C

CURRENT FILING DATE: 1999-06-25

PRIOR APPLICATION NUMBER: US 09/105,839

PRIOR PILING DATE: 1998-06-26

PRIOR PILING DATE: 1997-05-05

NUMBER OF SEQ ID NOS: 132

SEQ ID NO 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 123, Application US/1017277
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Trect, Ozlem
APPLICANT: Bahin, Ugur
APPLICANT: Bamensee, Hans Georg
APPLICANT: Ramensee, Hans Georg
APPLICANT: Stevanovic, Stefan
TITLE OF INVERTION: Method for Determining Presence of Cancer In a Sample By Determin
TITLE OF INVERTION: Gene, and Uses Thereof
FILEPREFERENCE: LUD 5556.1
CORRENT APPLICATION NUMBER: US/10/177,277
CURRENT FILING DATE: 2002-06-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 100.0%; Score 57; DB 6; Length 180; Best Local Similarity 100.0%; Pred. No. 0.046; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93.0%; Score 53; DB 5; Length 9; 100.0%; Pred. No. 3.1e+05; Live 0; Mismatches 0; Indels
CURRENT APPLICATION NUMBER: US/10/146,473
CURRENT FILING DATE: 2002-05-15
PRIOR APPLICATION NUMBER: US 60/291,150
PRIOR FILING DATE: 2001-05-15
NUMBER OF SEQ ID NOS: 82
SOFTWARE: Patentin version 3.0
SEQ ID NO 69
LENGTH: 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                            TYPE: PRT
CORGANISM: Homo sapiens
US-10-146-473-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Homo sapiens US-09-344-040C-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 LLMWLTQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 LAWITOCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 12
US-10-177-277-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΩQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
```

```
RESULT 15
US-09-670-456A-1
Sequence 1, Application US/09670456A
Sequence 1, Application US/09670456A
Sequence 1, Application US/09670456A
GENERAL INFORMATION:
LUD-5668-PCT
LUD-5668-PCT
APPLICANT: Gnjatic, Sacha
APPLICANT: Gnjatic, Sacha
TITLE OF INVENTION: ISOLATED PEPTIDES WHICH BIND TO HLA-C MOLECULES AND USES
TITLE OF INVENTION: THEREOF
FILE REFERENCE: LUD 566B
CURRENT APPLICATION NUMBER: US/09/670,456A
CURRENT FILING DATE: 2001-09-26
NUMBER OF SEQ ID NOS: 5
SEQ ID NO 1
LENGTH: 9
                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                     Query Match 82.5%; Score 47; DB 5; Length 9; Best Local Similarity 100.0%; Pred. No. 3.1e+05; Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 82.5%; Score 47; DB 5; Length 9; Best Local Similarity 100.0%; Pred. No. 3.1e+05; Matches 8; Conservative 0; Mismatches 0; Indels
; PRIOR FILING DATE: 1997-05-05; NUMBER OF SEQ ID NOS: 132; SEQ ID NO 131; LENCTH: 9; TYPE: PRT; ORGANISM: Homo sapiens US-09-344-040C-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
CORGANISM: Homo sapiens
US-09-670-456A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWITQC 8
|||||||||
2 LLMWITQC 9
                                                                                                                                                                                                                                                                                           1 LLAWITQC 8
                                                                                                                                                                                                                                                                                                                      2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                               ò
```

Search completed: July 16, 2002, 07:58:00 Job time: 858 sec

12, Appl 12, Appl 12, Appl 12, Appl 14, Appli 44, Appli 6, Appli 16, Appli 16, Appli 27, Appli 27, Appli 27, Appli

Sequence Sequence Sequence 8

US-08-937-263B-6
US-09-166-448-81
US-08-118-270-202
PCT-US-91-8-202
US-08-496-855A-6
US-08-496-855A-6
US-08-46-855A-6
US-08-46-855A-6
US-08-46-389-12
US-09-217-345-12
US-07-594-67-4
US-07-594-16-2
US-08-246-982A-16
US-08-457-273B-8
US-08-457-273B-8
US-08-457-273B-8
US-08-457-273B-8
US-08-457-273B-8
US-08-457-273B-8
US-08-457-273B-8
US-08-457-255-16
US-08-457-255-16
US-09-285-50-2

Sequence 16,

Sequence Sequence Sequence Sequence

ALIGNMENTS

6, Appli

Sequence Sequence Sequence Sequence

Sequence 1

Sequence Seguence Sequence

us-09-165-546a-7.open.rai

Run on:

Title:

```
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Jager, Elke; Stockert, Elisabeth; Old, Lloyd J;
APPLICANT: Jager, alexander
APPLICANT: Knuth, alexander
TITLE OF INVENTION: Method for Determining Status of A
TITLE OF INVENTION: Cancerous Condition By Determining Ant.
TITLE OF INVENTION: a Patient Sample
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Fulbright & Jaworski, L.L.P.
STREET: 666 Fifth Avenue
CITY: New York City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRICR APPLICATION DATA:
APPLICATION NUMBER: 09/165,546
FILING DATE: October 2, 1998
FRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/062,422
FILING DATE: April 17, 1998
PRIOR APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UMBER: US/09/359,503
July 23, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-OCtober-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Hanson, No. 6251603man D. REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: LUD:
TELECOMMUNICATION INFORMATION:
TELERAX: (212) 782-5958
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTER STICS:
LENTH: 10 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7, Application US/09359503 Patent No. 6251603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/O
FILING DATE: July 23, 19
CLASSIFICATION:
                                   449
44998
44998
44998
3310054
1112339
12339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IBM
aaaaaaaaaaaaaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 10103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Ne
STATE: N
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-359-503-7
32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8, Appli
43, Appl
5, Appli
5, Appli
5, Appli
80, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 7, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 42, Appl
Sequence 4, Appli
                                                                                                                              July 16, 2002, 07:41:32 ; Search time 45.25 Seconds (without alignments) 5.398 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10,
10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 4,
Sequence 79,
Sequence 7,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence Sequence Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
                   GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-937-2638-5
US-09-166-448-80
US-08-934-915-84
US-08-805-814-10
US-08-888-949-10
US-08-888-949-10
US-09-262-758-10
US-09-262-758-10
US-09-359-503-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-062-422-4
US-08-937-263B-4
US-08-791-495-7
US-08-791-495-9
US-08-791-495-9
US-09-183-931-43
US-09-183-931-43
US-09-359-503-5
US-09-359-503-5
                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                     231628 seqs, 24425594 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                              protein search, using sw model
                                                                                                                                                                                                                                                                                                                Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Issued_Patents_AA:*
                                                                                                                                                                                             US-09-165-546A-7
57
                                                                                                                                                                                                                                                                                                                                                                                                                                                length: 2000000000
                                                                                                                                                                                                                                                    1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
527
527
527
527
527
                                                                                                                                                                                                                                                                                                BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                length: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB
Maximum DB
                                                                                                  OM protein
                                                                                                                                                                                                                                                          Sednence:
                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database
```

S S

Result

2

Status of A Determining Antibodies

LUD 5466.1

7, Appli 7, Appli 44, Appl

·08-937-263B-7 -09-183-931-44 US-09-062-422-6

-09-062-422-7

Sequence Sequence Sequence

Sequence Sequence

10, 14,

Sequence

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4, Application US/09062422

Sequence 4, Application US/09062422

Patent No. 6252052

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Stockert, Elisabeth; Jager, Elke;

APPLICANT: Old, Lloyd J.

TITLE OF INVENTION: CANCER ASSOCIATED PROTEINS, USES THEREOF, TRUNCATED TITLE OF INVENTION: FORMS OF NY-ESO-1, AND HLA BINDING PEPTIDES DERIVED TITLE OF INVENTION: FORMS OF NY-ESO-1, AND HLA BINDING PEPTIDES DERIVED NUMBER OF SEQUENCES: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 57; DB 4; Length 11; 100.0%; Pred. No. 0.0011; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage COMPUTER: IBM
                         PRIOR APPLICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/165,546
FILING DATE: October 2, 1998
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 09/062,422
FILING DATE: APril 17, 1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/37,263
FILING DATE: September 15, 1997
PRIOR APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-October 1996
ATTORNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-October-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/062,422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hanson, No. 6251603man D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/937,263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Hanson, NO. 6/21bUJMGH.
REGISTRATION NUMBER: 30,946
REFRENCE/CDCKET NUMBER: LUD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 318-3000
TELEFRAX: (212) 752-5958
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York City
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 11 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & LJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-359-503-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-062-422-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to NY
                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Van Baren, Nicolas
APPLICANT: Brasseur, Francis
APPLICANT: Brasseur, Francis
APPLICANT: Brasseur, Francis
APPLICANT: Brasseur, Francis
TITLE OF INVENTION: METHOD FOR DIAGNOSING LEUKEMIA BY DETERMINING
TITLE OF INVENTION: TUMOR REJECTION ANTIGEN PRECURSORS
FILE REPERENCE: LUD 5527.1-JEL/ES
CURRENT APPLICATION NUMBER: US/09/183,931C
CURRENT FILING DATE: 1998 - 02 - 04
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 42
LENGTH: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 4, Application US/09359503
Patent No. 6251603
Patent No. 6251603
PAPLICANT: Jager, Elke; Stockert, Elisabeth; Old, Lloyd J;
APPLICANT: Jager, Elke; Stockert alisabeth; Old, Lloyd J;
APPLICANT: Muth, alexander
APPLICANT: Knuth, alexander
TITLE OF INVENTION: Method for Determining Status of A
TITLE OF INVENTION: Cancerous Condition By Determining Antibodies
TITLE OF INVENTION: a Patient Sample
CORRESPONDENCE: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                 ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                     100.0%; Score 57; DB 4; Length 10; 100.0%; Pred. No. 0.00099; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 100.0%; Score 57; DB 4; Length 11; Best Local Similarity 100.0%; Pred. No. 0.0011; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fulbright & Jaworski, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ON NUMBER: US/09/359,503
TE: July 23, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 42, Application US/09183931C; Patent No. 6210886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TIRE.

COMPUTER: IBM
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORTDERFECT
SOFTWARE: WORTDERFECT
TO THE STATE OF THE STATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     666 Fifth Avenue
                                                                                                                                                                                                             10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New York City
New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens
; TOPOLOGY: linear
US-09-359-503-7
                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                              1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                      1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORMATION:
US-09-183-931-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 2
US-09-183-931-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-359-503-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE:
                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

```
2 LLMWITQCFL 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΜA
                                                                                            US-09-166-448-79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-166-448-79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-791-495-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY:
                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Gure, Ali; Old, Lloyd J.; Jager, Elke;
APPLICANT: Alexander, Knuth, Drijfhout, Jan W.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: ENCONING CANCER ASSOCIATED ANTIGEN, THE ANTIGEN
TITLE OF INVENTION: ITSELF, AND USES THEREOF
CORRESPONDENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                  Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 57; DB 4; Length 11; ilarity 100.0%; Pred. No. 0.0011; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                 Score 57; DB 4; Length 11 Pred. No. 0.0011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Fulbright & Jaworski, L.L.P. STREET: 666 Fifth Avenue CITY: New York City STATE: New York
                                 REFERENCE/DOCKET NUMBER: LUD 5466.3 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: LUD 5466.1 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/937,263B FILING DATE: September 15, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,182
FILING DATE: OCTOBER 3, 1996
ATTORNEY/AGENT INFORMATION:
NAME: Sinn, Eric, Patent Agent
REGISTRATION NUMBER: 40,177
6252052man D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Sequence 4, Application US/08937263B
; Patent No. 6274145
                                                                                                                                                                                                                                                                                                    ..0
                   30,946
                                                                                                                                                                                                                                                                100.0%;
                                                                    TELEPHONE: (212) 688-9200
TELEFRAX: (212) 838-3884
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: PC-DOS
SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
                                                                                                                                                 LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                  10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 11 amino acids
                 REGISTRATION NUMBER:
Hanson, No.
                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                         1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-08-937-263B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-937-263B-4
                                                                                                                                                                                                        US-09-062-422-4
                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                           δŏ
```

1 LLMWITQCFL 10

δλ

```
÷
Sequence 79, Application US/09166448

Patent No. 6291430

GENERAL INFORMATION:
APPLICANT: Chaux, Pascal
APPLICANT: Stroobant, Vincent
APPLICANT: Stroobant, Vincent
APPLICANT: Van der Bruggen, Pierre
APPLICANT: Thielemans, Kris
APPLICANT: Ander 100461/7052

CURRENT FILIAG DATE: 1998-10-05

NUMBER OF SEQ ID NOS: 81

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 57; DB 4; Length 11; 100.0%; Pred. No. 0.0011; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Lucas, Sophie
APPLICANT: De Smet, Charles
APPLICANT: GodeLaine, Daniele
APPLICANT: Boon-Falleur, Thierry
TILE OF INVENTION: LL-1 TUMOR SPECIFIC GENES
NUMBER OF SEQUENCES: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Wolf, Greenfield & Sacks, P.C. STREET: 600 Atlantic Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: L0461/7005
TELECOMMUNICATION INCRMATION:
TELEPHONE: 617-720-3500
TELEFEAX: 617-720-3441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/791,495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 7, Application US/08791495; Patent No. 5811519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Van Ansterdam, John R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Leth, Bernard
APPLICANT: Lucas, Sophie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02210
```

```
Sequence 8, Application US/08937263B Patent No. 6274145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-937-263B-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-183-931-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                             Query Match 100.0%; Score 57; DB 2; Length 180; Best Local Similarity 100.0%; Pred. No. 0.016; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 57; DB 2; Length 180; 100.0%; Pred. No. 0.016; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 9, Application US/08791495
Patent No. 5811519
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Lucas, Sophie
APPLICANT: De Smet, Charles
APPLICANT: Godelaine, Daniele
APPLICANT: Good-Baine, Daniele
APPLICANT: Good-Baine, Daniele
APPLICANT: Good-Baine, Daniele
APPLICANT: GOOD-FAILOR, Thierry
TITLE OF INVENTION: LL-1 TUMOR SPECIFIC GENES
(ORRESPONDENCE ADDRESS:
ADDRESSEE: Wolf, Greenfield & Sacks, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/791,495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/ACENT INFORMATION:
NAME: Van Amsterdam, John R.
REGISTRATION NUMBER: 40,212
REFERENCE/DOCKET NUMBER: L0461/7005
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-720-3500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
; INFORMATION FOR SEQ ID NO: 7:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 180 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: protein

US-08-91-445-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 600 Atlantic Avenue CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 617-720-2441
INFORMATION FOR SEQ ID NO: 9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 180 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: 61/-,___
TELEPHONE: 61/-,___
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-791-495-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                   158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   158 LLMWITQCFL 167
                                                                                                                                                                                                                                                                                1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ψ
                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
US-08-791-495-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

RESULT 9 US-08-937-263B-8

```
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Gure, Ali; Old, Lloyd J.; Jager, Elke;
APPLICANT: Alexander, Knuth; Drijfhout, Jan W.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: ITSELF, AND USES THEREOF
TITLE OF INVENTION: CANCER ASSOCIATED ANTIGEN, THE ANTIGEN
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4.3. Application US/09183931C

Sequence 4.0. 6210886

GENERAL INFORMATION:

APPLICANT: Van Baren, Nicolas

APPLICANT: Beasseur, Francis

APPLICANT: Boon-Faileur, Thierry

TITLE OF INVENTION: METHOD FOR DIAGNOSING LEUKEMIA BY DETERMINING

TITLE OF INVENTION: WETHOD FOR EJSCOPING NATIGEN PRECURSORS

FILE REFERENCE: LUD 5527.1-JEL/ES

CURRENT APPLICATION NUMBER: US/09/183,931C

CURRENT FILING DATE: 2000-02-28

EARLIER APPLICATION NUMBER: US 09/018,422

EARLIER FILING DATE: 1998 - 02 - 04

NUMBER OF SEQ ID NOS: 44

LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 57; DB 4; Length 180; Best Local Similarity 100.0%; Pred. No. 0.016; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
COMPUTER: IBM
                                                                                                                                                                                                      ADDRESSEE: Fulbright & Jaworski, L.L.P. STREET: 666 Fifth Avenue CITY: New York City STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: LUD 5466.1 TELECOMMUNICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEO ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                 COUNTRY: US
ZIP: 10103
```

ö

```
ö
                                                                                                                                                                                                                                     TITLE OF INVENTION: CANCER ASSOCIATED PROTEINS, USES THEREOF, TRUNCATED TITLE OF INVENTION: CANCER ASSOCIATED PROTEINS, USES THEREOF, TRUNCATED TITLE OF INVENTION: FORMS OF NY-ESO-1, AND HIA BINDING PEPTIDES DERIVED TITLE OF INVENTION: THEREFROM NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
STREET: 805 Third Avenue
CITY: New York City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Gure, Ali; Old, Lloyd J.; Jager, Elke;
APPLICANT: Alexander, Knuth; Drijfhout, Jan W.
IIILE OF INVERTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVERTION: ENCOUNG CANCER ASSOCIATED ANTIGEN, THE ANTIGEN
TITLE OF INVENTION: ITSELF, AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                      APPLICANT: Stockert, Elisabeth; Jager, Elke;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew; Knuth, Alexander;
APPLICANT: Old, Lloyd J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 47; DB 4; L
Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-OCCODER-1996
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 625055man D.
REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: LUD 5466.3 TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
TELEPHONE: (212) 838-3884
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/062,422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82.5%; Scc.
100.0%; Pre
0; }
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5, Application US/08937263B Patent No. 6274145 GENERAL INFORMATION:
                                                                                       US-09-062-422-5; Sequence 5, Application US/09062422; Patent No. 6252052; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.۰
ادر 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 LLMWITOC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-937-263B-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-062-422-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   to NY
                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Jager, Elke; Stockert, Elisabeth; Old, Lloyd J;
APPLICANT: Mouth, alexander
TITLE OF INVENTION: Method for Determining Status of A
TITLE OF INVENTION: A patient Sample
TITLE OF INVENTION: a Patient Sample
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fulbright & Jaworski, L.L.P.
STREDT: 666 Fifth Avenue
CITY: New York City
STATE: New York
                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82.5%; Score 47; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; rive 0; Mismatches 0; Indels
                                                                                       DB 4; Length 9; 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 10103
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                           Pred. No. 1.7
Mismatches
                                                                                   82.5%; Score 47;
100.0%; Pred. No.
tive 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/165,546
FILING DATE: October 2, 1998
FILING APPLICATION DATA:
APPLICATION NUMBER: 09/062,422
FILING DATE: April 17, 1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION NUMBER: US 08/75,182
FILING DATE: 03-October 1996
FILING DATE: 03-October 1996
ATTORNEY,AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5466.1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/359,503
FILING DATE: July 23, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hanson, No. 6251603man D.
                                                                                                                                                                                                                                                                                                                            Sequence 5, Application US/09359503 Patent No. 6251603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEO ID NO: 5.
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM
OPERATING SYSTEM: PC-DOS
                                                                                                                                8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
                                                                                                         Best Local Similarity
Matches 8; Conserv
; OTHER INFORMATION: US-09-183-931-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                 2 LLMWITQC 9
                                                                                                                                                                          1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                    US-09-359-503-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                       Query Match
                                                                                                                                                                            ò
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
Sequence 84, Application US/08934915
Patent No. 5932412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TOPOLOGY: linear; ; MOLECULE TYPE: peptide US-08-934-915-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWIT----QCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 LLLWITAASAFRCFI 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
                                 2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                RESULT 15
US-08-934-915-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chaux, Pascal
APPLICANT: Chaux, Pascal
APPLICANT: Vancome, Valrie
APPLICANT: Stroobant, Vincent
APPLICANT: Boon-Falleur, Thierry
APPLICANT: Thielemans, Kris
APPLICANT: Thielemans, Kris
APPLICANT: Corthals, Jurgen
APPLICANT: Corthals, Jurgen
TITLE OF INVENTION: MAGE-3 PEPTIDES PRESENTED BY HLA CLASS II MOLECULES
FILE REPERENCE: L0461/7052
CURRENT APPLICATION NUMBER: US/09/166,448
CURRENT APPLICATION NUMBER: US/09/166,448
CURRENT FILING DATE: 1998-10-05
NUMBER OF SEQ ID NOS: 81
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

82.5%; Score 47; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.7e+05;
Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82.5%; Score 47; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; ive 0; Mismatches 0; Indels
NUMBER OF SEQUENCES: 8

CORRESPONDENCE ADDRESS:
ADDRESSEE: Fulbright & Jaworski, L.L.P.
STREET: 666 Fifth Avenue
CITY: New York City
STATE: New York City
STATE: New York
COUNTRY: 03A
ZIP: 10110 TYPE: Diskette, 3.5 inch, 144 kb storage
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
COMPUTER: Diskette, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 80, Application US/09166448
Patent No. 6291430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapiens US-09-166-448-80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
GY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITCE'8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-166-448-80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TOPOLOGY:
US-08-937-263B-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δλ
```

```
Indels
GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: DILLINER, JOAKIM
APPLICANT: DILLINER, LENA
TITLE OF INVENTION: SYNTHETIC PEPTIDES OF HUMAN
TITLE OF INVENTION: 11, 16, 18, 31, 33 AND 56, 7 TITLE OF INVENTION: 11, 16, 18, 31, 33 AND 56, 7 TITLE OF INVENTION: 11, 16, 18, 31, 33 AND 56, 7 TITLE OF INVENTION: DIAGNOSTIC PURPOSES
NUMBER OF SEQUENCES: 193
CORRESPONDENCE ADDRESS:
ADDRESSE: MASON & ASSOCIATES, P.A.
STREET: TITLE OF INVENTION: DIAGNOSTIC PURPOSES
CORRESPONDENCE ADDRESS:
ADDRESSE: MASON & ASSOCIATES, P.A.
STREET: FLORIDA
STREET: FLORIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 35.5; DB 2;
Pred. No. 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 22-SEP-1997
CLASSIFICATION: 435
310R ADDITION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search completed: July 16, 2002, 07:46:56 Job time: 324 sec
                                                                                                                                                                                                                                                                                                                                                                                          STATE: FLORIDA
COUNTRY: U.S.A.
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: Windows 3.0
SOFTWARE: Wicrosoft Word 6.0
CURRENT APPLICATION DATA:
PITTAN DAMP. 20.0001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/949,836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: LOUISE A. Foutch
REGISTRATION NUMBER: 37,133
REFRENCE/CDCKET NUMBER: 1946
TELECOMMUNICATION INFORMATION:
TELEPHONE: 813-538-380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37,133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 62.3%;
Best Local Similarity 46.7%;
Matches 7; Conservative
```

```
GenCore version 4.5
Copyright (c).1993 - 2000 Compugen Ltd.
```

_
mode
SΚ
using
search,
protein
1
protein
Ö

Run on:

July 16, 2002, 07:58:07; Search time 14.82 Seconds (without alignments) 64.838 Million cell updates/sec

US-09-165-546A-7 57 1 LLMWITQCFL 10 Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

1099 Total number of hits satisfying chosen parameters:

283138 seqs, 96089334 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 10

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR\_71:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\*

Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	Iq heavy chain CRD	Ω	₩	litorin - Rohde's	cytochrome-c oxida	acylase - Kluyvera	п г	>		hypothetical prote	conopressin G - co	lysine-conopressin	cytochrome-c oxida	acetylcholinestera	isotocin - common	oxytocin-related p	hypothetical prote	Ig heavy chain CRD	T-cell receptor ga	cytochrome-c oxida		cytochrome-c oxida	T-cell receptor qa		cytochrome oxidase				
SUMMARIES	ΩI	PT0289	S09652	PX0008	S07241	T17075	S19288	A29477	I52974	B45525	808606	A28495	S39040	T13976	A41117	A61364	PC2021	S27873	PT0310	E41946	T17057	T12303	T14019	T17060	T12325	T17072	T12312	F41946	A61081	T13818
	DB	7	7	7	7	7	7	7	7	~	7	7	7	7	ď	~	~	7	~	7	7	7	7	7	7	7	7	7	7	7
	Query Match Length	10	7	7	σ	10	ထ	6	σ	Ŋ	7	6	σ	10	80	6	6	10	10	10	10	10	10	10	10	10	10	ڡ	7	80
æ	. Query Match	38.6	35.1	35.1	35.1	35.1	33.3	31.6	31.6	29.8	29.8	29.8	29.8	29.8	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1			28.1				26.3	
	Score	22	20	20	20	20	19	18	18	17	17	17	17	17	16	16	16	16	16	16	16	16	16	16	16	16	16	15	15	15
	Result No.	г	7	m	4	ស	9	7	ω	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29

xenopsin-related p	xenopsin-related p	Ig heavy chain CDR	52.5K protein - sp	neurotoxin-associa	T-cell receptor ga	cytochrome-c oxida	cytochrome-c oxida	cytochrome-c oxida	cytochrome-c oxida	neuropeptide - sea	hemoglobin, extrac	T-cell receptor be	ribosomal protein	venom heptapeptide	acetylcholinestera
JS0302	A60320	PT0231	S78426	I44644	E49033	T13838	T17066	T17069	T14219	A60803	S65726	PT0641	S19630	A58512	A34026
~	N	~	N	N	~	7	~	~	~	N	~	~	~	~	7
6	σ	σ	σ	10	10	10	10	10	10	2	S	9	7	7	7
26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	24.6	24.6	24.6	24.6	24.6	24.6
5	15	15	15	12	15	15	15	12	15	14	14	14	14	14	14
•															

# ALIGNMENTS

```
Gradus chain CRD3 region (clone 4-109) - human (fragment)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens
C;Accession: PT0289
R;Yamada, M: Wasserman, R.; Reichard, B.A.; Shane, S.; Caton, A.J.; Rovera, G.
J. Exp. Med. 173, 395-407, 1991
A;Title: Preferential utilization of specific immunoglobulin heavy chain diversity an A;Reference number: PT0222; MUID:91108337
A;Reference number: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-10 <YAM>A;Residues: 1-10 <YAM>A;Residues: 1-10 <YAM>A;Residues: inmunoglobulin
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 22; DB 2; Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        38.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
```

ps 0; ) 1999 .M. determinant i	; Pre 1; L;	66.7% tive  C2 3' 10acae ence_r elaar- her a nce of 1; MUI	nserva (aac cter c #seque seque \$0965	imila.  Col.  TI 6  II 6  IS 6  IS 6  Col.  IS 6  Col.  Col.  IS 6  Col.  Col.	cal S LLMW LLMW LLNW LLNW Cal P Cal	tches tches 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Best Match Oy Db Db S09652 Nypothe C;Spothe C;Date: C;Date: A;Vlieg A;Title A;Title A;Refel A;Molec A;
	dd. No. 7.9e+02; Mismatches 1; Indels  1) - Enterobacter cloacae (fr  1) - Enterobacter cloacae (fr  2) allen, P.A.G.; van de Klunder  23-1159, 1989  23-2 gene, a gentamicin resi  4972	: Pred. No. 7.9e+02; 1; Mismatches 1; Indels region) - Enterobacter cloacae (fr evision 12-Feb-1993 #text_change 0 van Gaalen, P.A.G.; van de Klunder 3, 1153-1159, 1989 the aacC2 gene, a gentamicin resi b:90024972 ; NID:940878; PIDN:CAA35914.1; PID	66.7%; Pred. No. 7.9e+02; tive 1; Mismatches 1; Indels C2 3' region) - Enterobacter cloacae (fr loacae ence_revision 12-Feb-1993 #text_change C elaar-van Gaalen, P.A.G.; van de Klunder her. 33, 1153-1159, 1989 nce of the aacc2 gene, a gentamicin resi 1; MUID:90024972 X51534; NID:q40878; PIDN:CAA35914.1; PID	rity 66.7%; Pred. No. 7.9e+02;  nservative 1; Mismatches 1; Indels  (faacC2 3' region) - Enterobacter cloacae (frater cloacae #sequence_revision 12-Feb-1993 #text_change C #sequence_revision 12-Feb-1993 #text_change C #sequence of the aacC2 gene, a gentamicin resi \$09651; MUID:90024972  Ph	<pre>imilarity 66.7%; Pred. No. 7.9e+02; ; Conservative 1; Mismatches 1; Indels IT 6 !: IS 6  rotein (aacC2 3' region) - Enterobacter cloacae (fr erobacter cloacae -1993 #sequence_revision 12-Feb-1993 #text_change C 09552 . J. S. Ketelaar-van Gaalen, P. A.G.; van de Klunder ents Chemother. 33, 1153-1159, 1989 outide sequence of the aacC2 gene, a gentamicin resi mber: S09651; MUID:90024972 e: DNA ress: EMBL:X51534; NID:q40878; PIDN:CAA35914.1; PID nces: EMBL:X51534; NID:q40878; PIDN:CAA35914.1; PID</pre>	cal Similarity 66.7%; Pred. No. 7.9e+02; 4; Conservative 1; Mismatches 1; Indels LLAWIT 6	Local Similarity 66.7%; Pred. No. 7.9e+02; loss 4; Conservative 1; Mismatches 1; Indels 1 LLMWIT 6 1 LLMWIS 6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
0; Gay agment 8-Oct t, J.A stance	dd. No. 7.9e+02; Mismatches 1; Inde]  1) - Enterobacter cloace non 12-Feb-1993 #text_chz alen, P.A.G.; van de K] 33-1159, 1989 acc2 gene, a gentamicir 44972	; Pred. No. 7.9e+02; 1; Mismatches 1; Indel region) - Enterobacter cloace evision 12-Feb-1993 #text_che van Gaalen, P.A.G.; van de K] 3, 1153-1159, 1989 the aacC2 gene, a gentamicir b:90024972 ; NID:940878; PIDN:CAA35914.1	66.7%; Pred. No. 7.9e+02; tive 1; Mismatches 1; Indel C2 3' region) - Enterobacter cloace ence_revision 12-Feb-1993 #text_che elaar-van Gaalen, P.A.G.; van de Kl her. 33, 1153-1159, 1989 nce of the aacC2 gene, a gentamicir 1; MuID:90024972 X51534; NID:q40878; PIDN:CAA35914.1	rity 66.7%; Pred. No. 7.9e+02;  nservative 1; Mismatches 1; Indel  (aacC2 3' region) - Enterobacter cloace  ter cloacae #sequence_revision 12-Feb-1993 #text_che #sequence_revision 12-Feb-1993 #text_che :: Ketelaar-van Gaalen, P. A.G.; van de Kl chemother. 33, 1153-1159, 1989  sequence of the aacC2 gene, a gentamicir \$09651; MUD:90024972  *A  *A  **EMBL:X51534; NID:q40878; PIDN:CAA35914.1	<pre>imilarity 66.7%; Pred. No. 7.9e+02; ; Conservative 1; Mismatches 1; Inde] IT 6 !: IS 6  rotein (aacC2 3' region) - Enterobacter cloace erobacter cloacae -1993 #sequence_revision 12-Feb-1993 #text_che 09552 . S. Ketelaar-van Gaalen, P.A.G.; van de Kl ents Chemother. 33, 1153-1159, 1989 otide sequence of the aacC2 gene, a gentamicin object e: DNA r <vli> r <vli> nees: EMBL:X51534; NID:q40878; PIDN:CAA35914.1</vli></vli></pre>	cal Similarity 66.7%; Pred. No. 7.9e+02; 4; Conservative 1; Mismatches 1; Indel LLMWIT 6                       LLMWIS 6  aal protein (aacC2 3' region) - Enterobacter cloace 2-Feb-1993 #sequence_revision 12-Feb-1993 #text_che on: S09652 b. Agents Chemother. 33, 1153-1159, 1989 Nucleotide sequence of the aacC2 gene, a gentamicir ce number: S09651; MUID:90024972 on: S09652 e type: DNA s: 1-7 <vlis 1-7="" <vlis="" <vlis<="" s:="" td=""><td>ist Local Similarity 66.7%; Pred. No. 7.9e+02; Itches 4; Conservative 1; Mismatches 1; Indel 1 LLMWIT 6 1   Mismatches 1; Indel 1   LLMWIS 6   LLMWIS 6  </td></vlis>	ist Local Similarity 66.7%; Pred. No. 7.9e+02; Itches 4; Conservative 1; Mismatches 1; Indel 1 LLMWIT 6 1   Mismatches 1; Indel 1   LLMWIS 6
te (fragment) unge 08-Oct-199 undert, J.A.M resistance de	dd. No. 7.9e+02; Mismatches 1; no. 12-Feb-1993 #te alen, P.A.G.; var 33-1159, 1989 acc2 gene, a gent 44972	; Pred. No. 7.9e+02; 1; Mismatches 1; region) - Enterobacter evision 12-Feb-1993 #te van Gaalen, P.A.G.; var 3, 1153-1159, 1989 the aacC2 gene, a gent b:90024972 ; NID:q40878; PIDN:CAA3	66.7%; Pred. No. 7.9e+02; tive 1; Mismatches 1; Loacae loacae ence_revision 12-Feb-1993 #te elaar-van Gaalen, P.A.G.; var her. 33, 1153-1159, 1989 nce of the aacc2 gene, a gent 1; MuID:940878; PIDN:CAA3	iity 66.7%; Pred. No. 7.9e+02; nservative 1; Mismatches 1; acc2 3' region) - Enterobacter tter cloacae #sequence_revision 12-Feb-1993 #te #sequence_revision 12-Feb-1993 #te #sequence of the acc2 gene, a gent Sog651; MUD:90024972  ** ** ** ** ** ** ** ** ** ** ** ** *	<pre>imilarity 66.7%; Pred. No. 7.9e+02; ; Conservative 1; Mismatches 1; IT 6 I: IS 6 Inteln (aacC2 3' region) - Enterobacter erobacter cloacae -1993 #sequence_revision 12-Feb-1993 #te 09652 . J.S.; Ketelaar-van Gaalen, P.A.G.; Var ents Chemother. 33, 1153-1159, 1989 outide sequence of the aacC2 gene, a gent mber: S09651; MuID:90024972 09652 r <vvii></vvii></pre>	cal Similarity 66.7%; Pred. No. 7.9e+02; 4; Conservative 1; Mismatches 1; LLWWIT 6             LLWWIS 6  cal protein (aacC2 3' region) - Enterobacter : Enterobacter cloacae 2-Feb-1993 #sequence_revision 12-Feb-1993 #te on: S09652 HART, J.S.; Ketelaar.van Gaalen, P.A.G.; Var b. Agents Chemother. 33, 1153-1159, 1989 Nucleotide sequence of the aacC2 gene, a gent ce number: S09651; MUID:90024972 et type: DNA si.1-7 vVLI> etype: DNA	ist Local Similarity 66.7%; Pred. No. 7.9e+02; Itches 4; Conservative 1; Mismatches 1; ILLMWIT 6   ILLMWIT 6   ILLMWIT 6   ILLMWIT 6   ILLMWIT 6   ILLMWIS 6   ILL
Indels 0; Gal cloacae (fragment xt_change 08-Oct de Klundert, J.A amicin resistance	dd. No. 7.96 Mismatches  1) - Enterok  10 - Ebeb-15  11 - Feb-15  11 - Feb-15  14 972  14 972	; Pred. No. 7.96 1; Mismatches 1; Mismatches region) - Enterok evision 12-Feb-15 van Gaalen, P.A.C 3, 1153-1159, 196 the aacC2 gene, b:90024972	66.7%; Pred. No. 7.96 tive 1; Mismatches C2 3' region) - Enterok loacae ence_revision 12-Feb-15 elaar-van Gaalen, P.A.C her. 33, 1153-1159, 196 nce of the aacC2 gene, 1; MUID:90024972	rity 66.7%; Pred. No. 7.96 nservative 1; Mismatches n (aacC2 3' region) - Enterok ter cloacae #sequence_revision 12-Feb-15 ; Ketelaar-van Gaalen, P.A.C Chemother. 33, 1153-1159, 196 sequence of the aacC2 gene, so9651; MUD:90024972 h P	imilarity 66.7%; Pred. No. 7.36; Conservative 1; Mismatches II 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	cal Similarity 66.7%; Pred. No. 7.36  4; Conservative 1; Mismatches LLMWIT 6             LLMWIS 6  2  cal protein (aacC2 3' region) - Enterok Enterobacter cloacae 2-Feb-1993 #sequence_revision 12-Feb-15 on: S09652 Lhart, J.S.; Ketelaar-van Gaalen, P.A.C b. Agents Chemother. 33, 1153-1159, 196 Nucleotide sequence of the aacC2 gene, ce number: S09651; MUID:90024972 on: S09652 e type: DNA si.1-7 - VVII-> eferences: EMBL:X51534; NID:q40878; PID	ist Local Similarity 66.7%; Pred. No. 7.96 (tches 4; Conservative 1; Mismatches 1 LLMWIT 6   1 LLMWIT 6   1 LLMWIS 7   1 LLMWIS 7   1 LLMWIS 8   1 L
ecter cloacae (fragment 193 #text_change 08-Oct); van de Klundert, J.A.99 a gentamicin resistance	ed. No Misma 1) - E on 12- nalen, 33-115 4972	; Pred. No 1; Misma region) - E evision 12- van Gaalen, 3, 1153-115 the aacc2 b:90024972	66.7%; Pred. No tive 1; Misma C2 3' region) - E loacae ence_revision 12- elaar-van Gaalen, her. 33, 1153-115 nce of the aacC2 1; MUID:90024972	nservative 1; Misma (aacC2 3' region) - E ter cloacae #sequence_revision 12-; Ketelaar-van Gaalen, Chemother. 33, 1153-115 sequence of the aacC2 soguence of the aacC2 folloars in the control of the con	imilarity 66.7%; Pred. No Conservative 1; Misma IT 6 1: IS 6  rotein (aacC2 3' region) - E  erobacter cloacae -1993 #sequence_revision 12- 09652  outs Chemcther. 33, 1153-115 outde sequence of the aacC2 mber: S09651; MuID:90024972 09652 e: DNA 7 <vlip. 7="" <vlip="" conserved="" for="" for<="" td="" the=""><td>cal Similarity 66.7%; Pred. No 4; Conservative 1; Misma LLMWIT 6 1   1   1   LLMWIS 6  cal protein (aacC2 3' region) - E  cal protein (aacC2 3' region) - E  2-Feb-1993 #sequence_revision 12- thart, J.S.; Ketelaar van Gaalen, b. Agents Chemother. 33, 1153-115 Nucleotide sequence of the aacC2 on: S09652 on: S09652 e type: DNA si 17 <vlli> e type: DNA seferences: EMBL: X51534; NID: 44087</vlli></td><td>ist Local Similarity 66.7%; Pred. No trches 4; Conservative 1; Misma 1 LLMWIT 6 1; LLMWIT 6 1; LLMWIS 7 1; LLMWIS</td></vlip.>	cal Similarity 66.7%; Pred. No 4; Conservative 1; Misma LLMWIT 6 1   1   1   LLMWIS 6  cal protein (aacC2 3' region) - E  cal protein (aacC2 3' region) - E  2-Feb-1993 #sequence_revision 12- thart, J.S.; Ketelaar van Gaalen, b. Agents Chemother. 33, 1153-115 Nucleotide sequence of the aacC2 on: S09652 on: S09652 e type: DNA si 17 <vlli> e type: DNA seferences: EMBL: X51534; NID: 44087</vlli>	ist Local Similarity 66.7%; Pred. No trches 4; Conservative 1; Misma 1 LLMWIT 6 1; LLMWIT 6 1; LLMWIS 7 1; LLMWIS
tches 1; Indels 0; Galtches 1; Indels 0; Galtches 1; Indels 0; Galterobacter cloacae (fragment Feb-1993 #text_change 08-Oct P.A.G.; van de Klundert, J.A. 9, 1989 gene, a gentamicin resistance R. PINN:CAA35014.1; PID:G5810		; Pre 1; 1; region region evisite van G2 3, 115 the E	66.7%; Pretive 1; C2 3' region Loacae ence_revisic elaar-van Gs her. 33, 11: nce of the and th	nservative 1;  nservative 1;  n (aacC2 3' region  ter cloacae #sequence_revisic  #sequence_revisic Chemother 33, 111  sequence of the a  \$09651; MUD:9000;  A  P  EMBL:X51534: NID:	imilarity 66.7%; Pre Conservative 1; IT 6 1: IS 6 IS 6 rotein (aacC2 3' region erobacter cloacae -1993 #sequence_revisic 09552 outs Chemother. 33, 11: outs chemother. 33, 11: outs sequence of the amber: S09651; MUID:9005 99652 er DNA 7 < VLI>	cal Similarity 66.7%; Pre 4; Conservative 1; LLMWIT 6 1   1   1   1   2 2 2 al protein (aacC2 3' region Enterobacter cloacae 2-Feb-1993 #sequence_revisic on: S09652 b. Agents Chemother. 33, 11: Nucleotide sequence of the ce number: S09651; MUID:9005 on: S09652 e type: DNA s: 17 < VLID. selforences: EMBL:X51534; NID)	ist Local Similarity 66.7%; Predictors 4; Conservative 1;  1 LLMWIT 6             1 LLNWIS 6             2     2     4       5     52     52     6     6     78     1       1     1     1     2     1     1     2     3     4     5     5     5     6     7     7     7     7     8     9     10     11

ö Gaps ö Query Match 35.1%; Score 20; DB 2; Length 7; Best Local Similarity 40.0%; Pred. No. 2.8e+05; Matches 2; Conservative 3; Mismatches 0; Indels 1 LLMWI 5 1 :::|| g ò

RESULT

```
diuretic neuropeptide FI - migratory locust
C.Species: Locusta migratoria (migratory locust)
C.Species: Locusta migratoria (migratory locust)
C.Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 31-Dec-1993
C.Accession: A29477
R.Proux, J.P.; Miller, C.A.; Li, J.P.; Carney, R.L.; Girardie, A.; Delaage, M.; Schoo Blochem. Blophys. Res. Commun. 149, 180-186, 1987
A.Title: Identification of an arginine vasopressin-like diuretic hormone from Locusta A.Reference number: A29477; MuID:88077077
                                                                                                                                                                                                                                                                                                                                                                                                                                                       penicillin acylase fro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene: detection of S1 nuclease-sensitive si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F2 is an antiparallel dimer of
                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                       C;Species: Kluyvera cryocrescens
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 24-Jul-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 05-Nov-1999
C;Accession: I52974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                       jo
Length 10;
Score 20; DB 2; Length 10;
Pred. No. 1.8e+03;
; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 19; DB 2; Length 8; Pred. No. 2.8e+05; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 18; DB 2; Length 9;
Pred. No. 2.8e+05;
); Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                       at the active site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and F2, were identified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                              R;Martin, J.; Slade, A.; Aitken, A.; Arche, Blochem. J. 280, 659-662, 1991
A;Title: Chemical modification of serine at A;Reference number: S19288; MUID:92109664
A;Recession: S19288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seminal vesicle protein IV - rat (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A,Title: The seminal vesicle secretion IV A,Reference number: I52974; MUID:83261204 A,Accession: I52974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
35.1%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33.3%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31.6%;
75.0%;
                                                                                                                                                                                                                                                                                           acylase - Kluyvera cryocrescens
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         딘
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein
A; Residues: 1-9 <PRO>
A; Note: two neuropeptides,
C; Keywords: neuropeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R; Teng, C.T.; Harris, S.E.
DNA 2, 105-111, 1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-8 <MAR>
Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 2; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                           C; Accession: S19288
                                                                                                                                     11 1:
3 LLRWL 7
                                                                                                       1 LLAWI 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5 ITQC 8
|| || |
3 ITNC 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11:
3 MWV 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 MWI 5
                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 œ
                                                                                                             ò
                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ୍ପ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cytochrome-c oxidase (EC 1.9.3.1) chain I - Chamaeleo fischeri mitochondrion (fragment) C; Species: mitochondrion Chamaeleo fischeri C; Species: mitochondrion I5-Oct-1999 #text_change 22-Oct-1999 (C; Date: 12.00 tr. 12.00 f. Manajeva, N.B.: Papenfuss, T.J.
J. Mol. Evol. 44, 660-674, 1997
A; Mill: Evolutionary shifts in three major structural features of the mitochondrial gen A; Reference number: 218674; MUID:97315309
A; Recession: T17075
A; Molecule type: DNA
A; Residues: 1-10 cMAC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cypace: 12 Feb. 1359, #Sequence_levision is mail 1359 #Leal_Linning= to may 2000.
Cypace: 12 Falconieri Erspamer, G.; Simmaco, M.; Bossa, F.; Melchiorri, P.; Erspamer, R.Barra, D.; Falconieri Erspamer, G.; Simmaco, M.; Bossa, F.; Melchiorri, P.; Erspamer, A;Title: Rohdei-litorin: a new peptide from the skin of Phyllomedusa rohdei.
A;Reference number: S07241; MUID:85127560
A;Reference number: S07241
A;Residues: 1-9 CBAR>
C;Superfamily: gastrin-releasing peptide
C;Superfamily: gastrin-releasing peptide
C;Superfamily: gastrin-releasing peptide
C;Keywords: amidated carboxyl end; blocked amino end; neuropeptide; pyroglutamic acid
F;9/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;9/Modified site: amidated carboxyl end (Met) #status experimental
                                                                                               C; Accession: PX0008
R; Yokota, H.; Yuasa, A.; Sato, R.
J. Biochem. 104, 531-536, 1988
A; Title: Purification and properties of a form of UDP-glucuronyltransferase from liver A; Reference number: PX0008; MUID:89197852
A; Molecule type: protein
A; Residues: 1-7 < YOK>
C; Keywords: 91ycosyltransferase; hexosyltransferase; liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:U82688; NID:g3603112; PID:g3603115; PIDN:AAC62275.1 C;Genetics: A;Genetics: A;Genetics: C;Genetics: C;Genetics: C;Crowge...mitochondrion C;Keywords: mitochondrion; oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       litorin - Rohde's leaf frog
C;Species: Phyllomedusa rohdei (Rohde's leaf frog)
C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Aug-2000
                                              C;Species: Rattus norvegicus (Norway rat)
C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 07-Feb-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
glucuronosyltransferase (EC 2.4.1.17), hepatic - rat (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 20; DB 2; Length 9; Pred. No. 2.8e+05;
                                                                                                                                                                                                                                                                                                                                                                                                   Length 7;
                                                                                                                                                                                                                                                                                                                                                                                              Score 20; DB 2; Le
Pred. No. 2.8e+05;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2; Mismatches
                           N; Alternate names: UDP-glucuronyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                35.1%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               35.1%;
37.5%;
                                                                                                                                                                                                                                                                                                                                                                                              Query Match 35.1
Best Local Similarity 75.0
Matches 3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 35.1
Best Local Similarity 37.5
Matches 3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 MWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :| | |:
2 LWATGHEM 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 LLVW 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMW 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
```

ò a

```
Nalternate names: Lys-conopressin-6
C;Species: Conus geographus (geography cone)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 25-Apr-1997
C;Accession: A28495
R;Cruz, L.J.; de Santos, V; Zafaralla, G.C.; Ramilo, C.A.; Zeikus, R.; Gray, W.R.; O
B;Cruz, L.J.; de Santos, V; Zafaralla, G.C.; Ramilo, C.A.; Zeikus, R.; Gray, W.R.; O
A;Title: Invertebrate vasopressin/oxytocin homologs. Characterization of peptides fro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        lysine-conopressin - Erpobdella octoculata
C;Species: Erpobdella octoculata
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 17-Mar-1999
C;Accession: 539040
R;Salzet, M.; Bulet, P.; van Dorsselaer, A.; Malecha, J.
Eur. J. Biochem. 217, 897-903, 1993
A;Title: Isolation, structural characterization and biological function of a lysine-c
A;Reference number: S39040; MUID:94039146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cytochrome-c oxidase (EC 1.9.3.1) chain I - Cnemidophorus tigris mitochondrion (fragm C; Species: mitochondrion Cnemidophorus tigris
C; Species: T0.8 prediction T13976
R; Macey, J.R.; Larson, A.; Ananjeva, N.B.; Fang, Z.; Papenfuss, T.J.
A; Mol. Biol. Evol. 14, 91-104, 1997
A; Mol. Biol. Evol. 14, 91-104, 1997
A; Reference number: Z17789; MUID:97153826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Cross:references: EMBL:U71332; NID:q1753236; PID:q1753239; PIDN:AAB48274.1
                                                                                                                                                                                                                                                                                           A;Accession: A28495
A;Aolecule type: protein
A;Residues: 1-9 <CRU>
C;Superfamily: oxytocin-neurophysin
C;Keywords: amidated carboxyl end; venom
C;Keywords: amidated carboxyl end; status experimental
F;1-6/Disulfide bonds: #status experimental
F;9/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ė,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 17; DB 2; Length 9;
Pred. No. 2.8e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 17; DB 2; I
Pred. No. 2.8e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Mismatches
                        conopressin G · cone shell (Conus geographus)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Keywords: mitochondrion; oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29.8%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 66./v,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: protein A; Residues: 1-9 <SAL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Genome: mitochondrion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-10 <MAC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 CFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||:
| CFI 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 CFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ||:
| CFI 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Note: CO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
S39040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
SUBGOOF
PROCHETICAL Protein 2 estrogen receptor 5'-region - chicken
C;Species: Gallus gallus (chicken)
C;Decies: Sallus Gallus (chicken)
C;Date: O2-Dec-1993 #sequence_revision 10-Nov-1995 #text_change 18-Aug-2000
C;Accession: S0866
A;Title: The chicken oestrogen receptor sequence: homology with v-erbA and the human oes A;Accession: S0866
A;Accession: S0866
A;Status: translation not shown
A;Molecule type: mRNA
A;Status: Translation not shown
A;Molecule type: mRNA
A;Residues: 1-7 < KRU)
A;Cross-references: EMBL:X03805; NID:g63378; PIDN:CAA27432.1; PID:g584490
C;Superfamily: unassigned leader peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 actin I - malaria parasite (Plasmodium falciparum) (fragments)

C;Species: Plasmodium falciparum
C;Date: 03-Jun-1993 #sequence_revision 28-Oct-1994 #text_change 09-Jun-2000
C;Accession: B4525
B;Wesseling, J.G.; Snijders, P.J.F.; van Someren, P.; Jansen, J.; Smits, M.A.; Schoenmak
M.D. Biochem. Parasitol. 35, 167-176, 1989
A;Title: Stage-specific expression and genomic organization of the actin genes of the ma
A;Reference number: A4525; MUID:89364996
A;Accession: B4525
A;Accession: B4525
A;Residues: DA
A;Residues: 1-5 <WBS>
A;Residues: 1-5 <WBS>
A;Residues: 1-5 <WBS>
A;Residues: 1-5 <WBS>
A;Cross-references: GB:J03988
A;Note: the authors translated the codon GAA for residue 3 as Gly
C;Comment: The actin I gene contains no introns.
                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                 A;Residues: 1-9 <RES>
A;Cross-references: GB:M27324; NID:g207124; PIDN:AAA63501.1; PID:g207125
C;Genetics:
A;Gene: SVSIV
                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                          Score 18; DB 2; Length 9;
Pred. No. 2.8e+05;
1; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29.8%; Score 17; DB 2; Length 5; 66.7%; Pred. No. 2.8e+05; ive 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29.8%; Score 17; DB 2; Length 7; 33.3%; Pred. No. 2.8e+05; Live 2; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2; Indels
                                                                                                                                                                                                                                                                                           1; Mismatches
                                                                                                                                                                                                                                31.6%;
50.0%;
                                                                                                                                                                                                                             Query Match 31.6
Best Local Similarity 50.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 29.8
Best Local Similarity 66.7
Matches 2; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best_Local Similarity
Matches 2; Conserv
                                                                                                                                                                                                                                                                                                                                                  3 MWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                       | :| ||
1 MKLTSLFL 8
A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 MWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H:: |
MFLAHC |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7 QCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 ECF
```

ò g ö

Gaps

DB 2; Length 10;

Score 17;

29.88;

Query Match

Query Match

ò q 11

RESULT A28495

ö

Gaps

```
isotocin - common carp

C;Species: Cyprinus carpio (common carp)

C;Species: Cyprinus carpio (common carp)

C;Species: Cyprinus carpio (common carp)

C;Accession: A61364

R;Acher, R.; Chauvet, J.; Chauvet, M.T.; Crepy, D.

Comp. Biochem. Physiol. A 14, 245-254, 1965

A;Title: Caracterisation des hormones neurohypophysaires d'un poisson osseux d'eau douce

A;Reference number: A61364

A;Accession: A61364
                                                                                                                                                                                                                                                                                                                            Fixedenkamp, H.J.; Weise, C.; Raba, R.; Aaviksaar, A.; Hucho, F.
Prog. Natl. Acad. Sci. U.S.A. 88, 6117-6121, 1991
A;Title: Anionic subsites of the catalytic center of acetylcholinesterase from Torpedo A;Teference number: A41117; MUID:91296772
A;Accession: A41117
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-8 <RRE>
C;Keywords: carboxylic ester hydrolase
                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
                                                                                                                                                                                                                                     acetylcholinesterase (EC 3.1.1.7), venom - Asian cobra (fragment)
C;Species: Naja naja oxiana (Asian cobra, Oxus cobra)
C;Date: 27-Mar-1992 #sequence_revision 27-Mar-1992 #text_change 23-Jun-1993
C;Accession: A41117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
A;Aolecule type: protein
A;Residues: 1-9 <ACHS.
C;Superfamily: oxytocin-neurophysin
C;Keywords: amidated carboxyl end; neuropeptide; posterior pituitary
F;9/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .;
0
                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
57.1%; Pred. No. 5.9e+03;
tive 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match

28.1%; Score 16; DB 2; Length 9;
Best Local Similarity 40.0%; Pred. No. 2.8e+05;
Matches 2; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28.1%; Score 16; DB 2; Ls
ilarity 100.0%; Pred. No. 2.8e+05;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Search completed: July 16, 2002, 08:02:42 Job time: 275 sec
Best Local Similarity 57.1
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 2; Conserv
                                                                     3 MWITQCF 9
                                                                                                     1 | ||: |
1 MTITRWF 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :|: |
2 YISNC 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 WITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 MW 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 MW 4
                                                                                                                                                                                         14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 15
A61364
                                                                                                                                                                                                                  A4111
                                                                          ö
                                                                                                                    ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```



# GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

July 16, 2002, 08:02:07; Search time 11.74 Seconds (without alignments) 32.981 Million cell updates/sec Run on:

US-09-165-546A-7 57 1 LLMWITQCFL 10 Title: Perfect score: Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

105224 seqs, 38719550 residues Searched:

349 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 10

Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

SwissProt\_40:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	P08946 phyllomedus	P16339 locusta mig	couns de	cyprin	P42998 eisenia foe	P42994 raja clavat				P42999 squalus aca		P81084 pinus pinas									P08945 litoria aur					_	P55962 nicotiana t	P80901 methanobact	_	achatina	5920 achatina	5921 achatina	P18691 thunnus alb
SUMMARIES	ID	LITE_PHYRO	DNF1_LOCMI	CONO_CONGE	ISOT_CYPCA	OXYT_EISFO	OXYT_RAJCL	UF01_MOUSE	MGMT_BOVIN	OXYA_SCYCA	OXYA_SQUAC	APE_CAPGI	RCA_PINPS	CPD1_ENTFA		OXYT_BUFRE	OXYT_CYPCA	OXYT_RABIT	OXYV_SQUAC	EI01_LITRU	D1_NEPNO	LITO_LITAU	GON1_PETMA	GON3_ONCKE	GONL_SQUAC	LABA_JATMU	MP2_MICOC	NO40_TOBAC	PORB_METTM	CCF1_ENTFA	WWA1_ACHFU	WWA2_ACHFU	WWA3_ACHFU	ACI_THUAL
	Length DB	9 1																				9											7 1	1 8
đ	Query Match	35.1	31.6	29.8	28.1	28.1	28.1	26.3	26.3	26.3	26.3	26.3	26.3	24.6	24.6	24.6	24.6	24.6	24.6	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	21.1	21.1	21.1	21.1	21.1
	Score	20	18	17	16	16	16	15	15	15	15	15	15	14	14	14	14	14	14	13	13	13	13	13	13	13	13	13	13	12	12	12	12	12
	Result No.	-	7	ĸ	4	S	9	7	Φ.	თ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33

P30369 macropus eu P3856 carcinus ma P05487 conus stria P4297 scyliorhinu P80027 octopus vul P56264 litoria xan P1853 manduca sex P18110 romalea mic P11385 caraushus m P10939 nauphoeta c P58649 octopus min P30425 bothrops in				rtebrata; Euteleostomi; Bufonoidea; Hylidae;	, Melchiorri P.,	of Phyllomedusa rohdei."; OMEDIN B/RANATENSIN		BOXYLIC ACID. CRC64;	Length 9; 3; Indels 0; Gaps 0;		kapoda; Insecta; ra; Caelifera;
CCKN MACEU CCAP_CARMA CONO_CONST OXYT_CCTVU CAER_LITXA FARP_MANSE HTF1_ROMMI HTF2_CARMO HTF_NOUCI OCP3_OCTMI	ALIGNMENTS	PRT; 9 AA.	<pre>ted) sequence update) annotation update)</pre>	leaf frog). Craniata; Ve eobatrachia;	PubMed=3838283; r G.F., Simmaco M., Bossa F.,	the skin SIN/NEUR(	sin. : 1.	PYRROLIDONE CAR! AMIDATION. ECCC1E861ADC377	; Score 20; DB 1; ; Pred. No. 1e+05; 2; Mismatches		ARD; PRT; 9 AA.  , Created)  , Last sequence update)  , Last annotation update)  , c neuropeptide F1/F2).  Migratory locust).  Arthropoda: Tracheata: Hexapoda; Insecta;  Orthopteroidea; Orthoptera; Caelifera;  idea; Acrididae; Locusta.
21.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 221.1 23.1 24.1 25.1 26.1 27.1 27.1 27.1 27.1 27.1 27.1 27.1 27		STANDARD;	(Rel. 09, Created) (Rel. 28, Last seq (Rel. 41, Last ann	idei oa; hia;	7560; PubMed=38 spamer G.F., S	rin: a new pep( 82:53-56(1985) LAR LOCATION: 8 IY: BELONGS TO	FAMILY. PIR, S07241; S07241. InterPro; IPR000874; Bombesin Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1	ily; Amidation 1 1 1 9 9 AA; 1090 MW;	35.1%; Similarity 37.5%; 3; Conservative	Е 10 : : 9	TAND . 15 . 37 . 37 . 37 . 37 . 15 . 16 . 0a;
34 12 335 12 336 12 337 12 339 12 339 12 441 12 444 11 444 11 444 11 45 45 45 45 45 45 45 45 45 45 45 45 45		RESULT 1 LITR_PHYRO LITR_PHYRO	P08946; 01-NOV-1988 (Rel 01-FEB-1994 (Rel 01-MAR-2002 (Rel	Rhodei-litorin. Phyllomedusa ro. Eukaryota; Meta Amphibia; Batra Phyllomedusa. NCBI_TaxID=8394	[1] SEQUENCE. MEDLINE=85127560; Barra D., Erspamer	Erspamer V.; "Rohdei-litorin FEBS Lett. 182: -!- SUBCELLULAR -!- SIMILARITY:	FAMILY. PIR, S07241; InterPro, IPP Pfam, PF0204, PROSITE; PS0	Bombesin fam MOD_RES MOD_RES SEQUENCE 9	Query Match Best Local Simi Matches 3;	3 MWITQCFL::   : 2 LWATGHFM	FI_LOCMI  FI_LOCMI  DNE1_LOCMI  \$16339; 01-AuG-1990 (Rel) 15-DEC-1998 (Rel) Locuptressin (Diu Locuptressin Metaz Eukaryota; Metaz Pterygota; Metaz Reridomorpha; Ac NCBI_TAXID=7004; [1]
		RESU LITR ID	AC DI	00 00 00 00 00 00 00 00 00 00 00 00 00	RN RX RA	RA RI CC		KW FT SQ	Qu Be Ma	O <sub>Y</sub>	RESULT ID PIT IN

```
||:
| CFI 3
  8 CFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              :|: |
2 YISNC
                                                                           ISOT_CYPCA
P42993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 WITQC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OXYT_EISFO
P42998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Annetocin.
                                                                                                                                  Isotocin.
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OXYT_EISFO
                                                        KESULT 4
ISOT_CYPCA
                        g
                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                            ö
         TISSUE-Suboesophageal ganglion, and Thoracic ganglion;
MEDLINE-88077077; PubMed=3689410;
Proux J.P., Miller C.A., Li J.P., Carney R.L., Girardie A.,
Delaage M., Schooley D.A.;
"Identification of an arginine vasopressin-like diuretic hormone from Locusta migratoria.";
Biochem Biophys. Res. Commun. 149:180-186(1987).
-!- SUBUNIT: F2 IS AN ANTIPRABLEL DISULFIDE LINKED DIMER OF F1.
                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE.
MEDLINE=88058932; PubMed=3680228;
Cruz L.J., de Santos V., Zafaralla G.C., Ramilo C.A., Zeikus R.D.,
Gray W.R., Olivera B.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Invertebrate vasopressin/oxytocin homologs. Characterization of peptides from Conus geographus and Conus straitus venoms."; J. Biol. Chem. 262:15821-15824(1987).
                                                                                                                                                                                                                                                                            .;
0
                                                                                                                                                                                     (IN F2).
(IN F2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-89024586; PubMed-3052286; Gray W.R., Olivera B.M., Cruz L.J.; "Peptide toxins from wenomous Conus snails."; Annu. Rev. Biochem. 57:665-700(1988).
-!- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY. PIR; A28495; A28495.
InterPro; IPR000981; Neurhypophys_horm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Mollusca, Gastropoda, Caenogastropoda,
Neogastropoda, Conoidea, Conidae, Conus.
                                                                                                                                                                                                                                                      Score 18; DB 1; Length 9; Pred. No. 1e+05;
                                                                                                                                                                                                                                                                          1; Indels
                                                                                                                                                                                   INTERCHAIN (WITH C-6')
INTERCHAIN (WITH C-1')
AMIDATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AMIDATION.
D4FC276EB4540059 CRC64;
                                                                                                                                                                                                                    9 AA; 976 MW; 56EB176EB451A057 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                           9 AA.
                                                                                                                                                                                                                                                                Pred. No. 1e+C
0; Mismatches
                                                                                                                                        Pfam; PF00220; hormone4; 1. PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00220; hormone4; 1. PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
                                                                                                                 PIR; A29477; A29477.
InterPro; IPR000981; Neurhypophys_horm.
                                                                                                                                                               Neuropeptide; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Conus geographus (Geography cone).
                                                                                                                                                                                                                                                    Query Match 31.6%;
Best Local Similarity 75.0%;
Matches 3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 AA; 1037 MW;
                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                               LYS-conopressin G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=6491;
                                                                                                                                                                                                                                                                                                5 ITQC 8
                                                                                                                                                                                                                                                                                                                                                                         CONO_CONGE
P05486;
                                                                                                                                                                                                                                                                                                            ITNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOD_RES
SEQUENCE
                                                                                                                                                                         DISULFID
                                                                                                                                                                                     DISULFID
                                                                                                                                                                                               DISULFID
                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                Hormone;
                                                                                                                                                                                                           MOD_RES
                                                                                                                                                                                                                                                                                                                                                     RESULT 3
CONO_CONGE
οy
                                                                                                                                                                                                                                                                                                                    a
```

```
ó
                                                                                                                                                                                                                                                                                  TISSUE=Pituitary;
Acher R., Chauvet J., Chauvet M.-T., Crepy D.;
Characterization of neurohypophyseal hormones from a fresh water bony fish, the carp (Cyprinus carpio). Comparison with hormones from sea water bony fishs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochem. Biophys. Res. Commun. 198:393-399(1994).
-!- FUNCTION: POTENTIATES SPONTANEOUS CONTRACTIONS OF THE GUT AND ALSO PULSATORY CONTRACTIONS AND BLADDER-SHAKING MOYEMENT OF THE NEPHRIDIA. MAY BE INVOLVED IN OSMOREGULATION OF THE ANIMAL THROUGH NEPHRIDIAL FUNCTION.
-!- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eisenia foetida (Common brandling worm) (Common dung-worm).
Eukaryota; Metazoa; Annelida; Clitellata; Oligochaeta; Haplotaxida;
Lumbricina; Lumbricidae; Eisenia.
NCBI_TaxID=6396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Annetocin: an oxytocin-related peptide isolated from the earthworm,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oumi T., Ukena K., Matsushima O., Ikeda T., Fujita T., Minakata H.,
Nomoto K.;
                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopteryyii; Neopterygii; Teleostei; Buteleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Cyprinus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó
                                                                                                                                                                                                                                                                                                                                                                                         Comp. Biochem. Physiol. 14:245-254(1965).
-!- FUNCTION: ANTIDIUMETIC HORMONE.
-!- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
PIR; A61364; A61364.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28.1%; Score 16; DB 1; Length 9; 40.0%; Pred. No. 1e+05; ive 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9 9 AMIDATION.
9 AA; 969 MW; 17FF476EB455B04B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
                                      01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam, PF00220, hormone4, 1.
PROSITE, PS00264; NEUROHYPOPHYS_HORM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000981; Neurhypophys_horm.
  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Pituitary;
MEDLINE=94121660; PubMed=8292046;
                                                                                                                                  Cyprinus carpio (Common carp).
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hormone; Amidation.
DISULFID 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 2; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eisenia foetida."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
```

ö

Gaps

ö

Length 9; 0; Indels

Score 17; DB 1; Pred. No. 1e+05;

29.8%; 66.7%;

al Similarity

1; Mismatches

Conservative

Query Best Matches

```
8
                                                                                                                                                                                                                                          MGMT_BOVIN P29177;
                                                                                                                                                                         4 WI 5
| | 1
1 WI 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               :-
LTPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACT_SITE
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 ITQC
                                                                                              NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
        SEQUENCE
                                                                                                                                                                                                                        RESULT 8
MGMT_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
        Dp
                                                                                                                                                                           δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                        MEDLINE-66123415; PubMed-5880565; Acher R., Chauvet J., Chauvet M.-T., Crepy D.; Phylogeny of neurophyophyseal peptides: isolation of a new hormone, glumitocin (Ser 4-Gin 8-ocytocin) present in a cartilaginous fish,
                                                                                                                                                                                                                                                             Glumitocin.
Raja clavata (Thornback ray).
Raja clavata; Chordata; Craniata; Vertebrata; Chondrichthyes; Elasmobranchii; Squalea; Hypnosqualea; Pristiorajea; Batoidea; Rajiformes; Rajidae; Raja.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metaria; Crordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. NCBI_TaxID=10090;
                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
Unknown protein from 2D-page of fibroblasts (P19) (Fragment).
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                              the ray (Raia clavata)."; 1393-396(1965).

1- Blophys. Acta 107:393-396(1965).

1- FUNCTION: ANTIDIURETIC HORMONE.

1- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY. InterPro: IPR000981. Neurhypophys_horm.

PF00220; hormone4; 1.

PROSITE: PS00264; NEUROHYPOPHYS_HORM: 1.
                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                     Score 16; DB 1; Length 9; Pred. No. 1e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 9 AMIDATION.
9 AA; 984 MW; 17E9C76EB455B04B CRC64;
                                                                AMIDATION.
D4EEB76EB45412C9 CRC64;
PIR; PC2021; PC2021.
Interpro: IPR000981; Neurhypophys_horm.
Pfam; PF00220; hormoned; 1.
PROSITE; PS00264; NEUROHYPOPHYS_HORM; FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 16; DB 1;
Pred. No. 1e+05;
2; Mismatches
                                                                                                                                                                                                                               01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
                                                                                                                                                                                                               9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5 AA.
                                                                                                                          Mismatches
                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                       28.1%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28.1%;
40.0%;
                                                                         9 AA; 996 MW;
                                                                                                      Query Match 28.1
Best Local Similarity 66.7
Matches 2; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                             Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          :|: |
2 YISNC 6
                                                                                                                                            8 CFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UF01_MOUSE
P38639;
                                                                                                                                                        1 CFV 3
                                                                                                                                                                                                   OXYT_RAJCL
ID OXYT_RAJCL
AC P42994;
                                                     DISULFID
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4 WITOC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UF01_MOUSE
        S FF S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                               셤
                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

```
Rydberg B., Hall J., Karran P.;

The Rydberg B., Hall J., Karran P.;

The Rydberg B., Hall J., Karran P.;

The Color of the bovine O6-methylguanine-DNA methyltransferase.

The Nucleic Acids Res. 18:17-21(1990).

TRANSFERRING THE ALKYLE GROUP AT THE O-6 POSITION TO A CYSTEINE RESIDUE. IN THE BRYME. THIS IS A SUICIDE REACTION: THE ENZYME IS IRREVERSIBLY INACTIVATED.

TRANSFERRING THE ALKYLE GROUP AT THE O-6 POSITION TO A CYSTEINE RESIDUE. IN THE BRYME IS A SUICIDE REACTION: THE ENZYME IS IRREVERSIBLY INACTIVATED.

TO ATALIYET CATALIYET CATIVITY: DNA (containing 6-O-methylguanine) + protein S-methyl-L-cysteine = DNA (without 6-O-methylguanine) + protein S-methyl-L-cysteine = DNA (without 8-O-methylguanine) + protein S-methyl-L-cysteine = DNA (without 6-O-methylguanine) + protein S-methyl-L-cysteine = DNA (without 6-O-meth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Methylated-DNA--protein-cysteine methyltransferase (EC 2.1.1.63) (6-0-methylguanine-DNA methyltransferase) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                   Electrophoresis 15:735-745(1994).
-!- MISCELLANEOUS: ON THE 2D-GEL THE DETERMINED PI OF THIS UNKNOWN PROTEIN IS: 6.6, ITS MW IS: 19 kDa.
NON_TER 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALKYL GROUP ACCEPTOR (BY SIMILARITY).
TISSUE=Fibroblast;
MEDLINE=95009907; PubMed=7523108;
METICK B.A., Patterson R.M., Wichter L.L., He C., Selkirk J.K.;
"Separation and sequencing of familiar and novel murine proteins using preparative two-dimensional gel electrophoresis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15; DB 1; Length Pred. No. 1e+05;
                                                                                                                                                                                                                                                                                                                                                                                                               5 AA; 717 MW; 7364087043100000 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325171A720476047 CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 15; DB 1;
Pred. No. 1e+05;
0; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA repair; Transferase; Methyltransferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Thymus;
MEDLINE=90174912; PubMed=2308822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26.3%; Scilarity 100.0%; P. Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26.3%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovidae; Bovinae; Bos.
NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
2; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 AA;
```

us-09-165-546a-7.closed.rsp

```
1
9
9 AA;
                                                                                        œ
                                                                                                   :| |
2 YINNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ::|
4 MLW 6
                                                                                        4 WITOC
                                                                                                                                                           APE_CAPGI
P80474;
                                                                                                                                                                                                                                                                                                                                                                        CAVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 LMW 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RCA_PINPS
P81084;
DISULFID
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                 Query Match
                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                    NON_TER
NON_TER
                                                                                                                                                                                                                                                                                                              factor.
                                                           Best Loca
Matches
                                                                                                                                         11
                                                                                                                                        RESULT 11
APE_CAPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RCA_PINPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
 FT
                                                                                                          g
                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Acher R., Chauvet J., Chauvet M.-T., Fontaine M.;
Acher R., Chauvet J., Chauvet M.-T., Fontaine M.;
Acher R., Chauvet J., Chauvet M.-T., Fontaine M.;
"Identification of 2 new neurohypophyseal hormones, valitocin (Val8-oxytocin) and aspartocin (Asn4-oxytocin) in a selachian fish, the spiny dog-fish (Squalus acanthias).";
C. R. Acad. Sci., D. Sci. Nat. 274:313-316(1972).
-:-SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
PICK-REC. IPRO00981; Neurhypophys_horm.
Pfam: PF00220; hormone4; 1.
PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Acher R., Chauvet J., Chauvet M.-T., "Phylogeny of the neurohypophysial hormones. Two new active peptides isolated from a cartilaginous fish, Squalus acanthias."; Eur. J. Biochem. 29:12-19(1972).
                                                      Asvatocin.
Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).
Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).
Eukaryota, Metazoa, Chordata, Cranlata, Vertebrata, Chondrichthyes,
Elasmobranchii, Galeomorphii, Galeoidea, Carcharhiniformes;
Scyliorhinidae, Scyliorhinus.
NCBI_TaxID=7830;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii; Squalea; Squaloidei; Squalidae; Squalus.
NCBL_TaxID=7797;
                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                      Score 15; DB 1; Length 9; Pred. No. 1e+05;
                                                                                                                                                                                                                                                                                                                                         2; Indels
                                                                                                                                                                                                                                                                               9 AMIDATION.
982 MW; 17EDD76EB444404B CRC64;
                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
          9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                  9 AA.
                                                                                                                                                                                                                                                                                                                                          1; Mismatches
                                                                                                                                                                                                                                      Pfam; PF00220; hormone4; 1.
PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Aspartocin (Aspargtocin).
Squalus acanthias (Spiny dogfish).
                                                                                                                                      TISSUE=Pituitary;
MEDLINE=95062247; PubMed=7972045;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=73031727; PubMed=5083097;
                             Created)
                                                                                                                                                                                                                                                                                                                       26.3%;
                                                                                                                                                                                                                                                                                                                                          2; Conservative
          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                          01-NOV-1995 (Rel. 32,
01-NOV-1995 (Rel. 32,
01-NOV-1995 (Rel. 32,
                                                                                                                                                                                                                                                            Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                         9 AA;
                                                                                                                                                                                                                                                                                                                                                                                2 YINNC 6
                                                                                                                                                                                                                                                                                                                                                            4 WITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                OXYA_SQUAC
P42999;
         OXYA_SCYCA
                                                                                                                                                                                                                                                                              MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   [1]
SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [2]
SEQUENCE.
                                                                                                                                                                                                                                                                      DISULFID
                                                                                                                              SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
OXYA_SQUAC
                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                g
                  ŏ
```

```
ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
16-CT-2001 (Rel. 40, Last annotation update)
Probable ribulose bisphosphate carboxygenase activase (RuBisCO
                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last sequence update)
Aminopetidase (EC 3.4.11.-) (Fragment).
Capnocytophaga gingivalis.
Bacteria: CFB group; Flavobacteriaceae; Capnocytophaga.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Microbiology 141:3087-3093(1995).

-!- FUNCTION: AMINOPEPTIDASE WHICH HYDROLYZES SUBSTRATES WITH FREE N-TERMINAL AMINO ACID RESIDUES BUT NOT N-TERMINAL BLOCKED ONES.
OPTIMUM ACTIVITY IS MEASURED AT PH 7.5. MAY BE IMPORTANT IN THE NUTRITION AND PATHOGENESIS OF THE ORGANISM IN THE HUMAN ORAL
                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptophyta; Embryophyta; Tracheophyta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-ATCC 33624;

MEDLINE-266118234; PubMed-8574402;

Spratt D.A., Greenman J., Schaffer A.G.;

"Capnocytophaga gingivalis aminopeptidase: a potential virulence
                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     activase) (RA) (Water stress responsive protein 4) (Fragment). Pinus pinaster (Maritime pine). Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheoph Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus. NCBI_TaxID=71647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-Needle;
MEDLINE=98418576; PubMed=9747804;
Costa P., Bahrman N., Frigerio J.-M., Kremer A., Plomion C.;
"Water-deficit-responsive proteins in maritime pine.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26.3%; Score 15; DB 1; Length 10; 33.3%; Pred. No. 4.1e+03; ive 2; Mismatches 0; Indels
                                                                                                                                                          Indels
                                                                                                     Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10 10 10
10 AA; 1306 MW; 00C0A6DB43772694 CRC64;
9 AMIDATION.
996 MW; 17F8376EB444404B CRC64;
                                                                                                                                                          5.
                                                                                                     Score 15; DB 1;
Pred. No. 1e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase; Aminopeptidase; Magnesium; Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                   10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- COFACTOR: REQUIRES MAGNESIUM OR CALCIUM
                                                                                                                                                          1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                     26.3%;
40.0%;
                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
```

```
Search completed: July 16, 2002, 08:06:14 Job time: 247 sec
                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=8390;
   Contryphan-Vn.
                                                                  TISSUE=Venom;
                                                                                                                                                                                                                            œ
                                                                                                                                                                                                                                                                                         OXYT_BUFRE
P42995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 CFL 10
                                                                                                                                                                                                                                               WKPWC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |::
CYI 3
                                                                                                                                                                                                                            4 WITOC
                                                                                                                                                    MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                          Seritocin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
MOD_RES
SEQUENCE
                                                                                                                                 DISULFID
MOD_RES
                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                              S
   q
                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                      Gaps
                                                                         MEDLINE=99274088; PubMed=10344291;
Costa P., Pionneau C., Bauw G., Dubos C., Bahrman N., Kremer A.,
Frigerio J.-M., Plomion C.;
"Separation and characterization of needle and xylem maritime pine
                                                                                                                                                                                                                                                                                                                                                                         Enterococcus faecalis (Streptococcus faecalis).
Bacteria; Firmicutes; Bacillus/Clostridium group; Enterococcaceae;
Enterococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Science 226:849-850(1984).
-!- FUNCTION: CPDI IS INVOLVED IN THE CONJUGATIVE TRANSFER OF THE BACTERIOCIN PLASMID PPD1.
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-85040388; PubMed-6436978;
Suzuki A., Mori M., Sagakami Y., Isogai A., Fujino M., Kitada C.,
Craig R.A., Clewell D.B.;
"Isolation and structure of bacterial sex pheromone, cPDI.";
                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..
O
                                                                                                                                                                                                                  Score 15; DB 1; Length 10;
Pred. No. 4.1e+03;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 8;
                                                                                                                                        -i- INDUCTION: BY WATER STRESS.
-i- SIMILARITY: BELONGS TO THE RUBISCO ACTIVASE FAMILY.
Chloroplast; ATP-binding.
                                                                                                                                                                                      10 AA; 1171 MW; COASO6D2C72B1EA6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 AA; 913 MW; 8665B729C682C729 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 14; DB 1;
Pred. No. 1e+05;
                                                                                                                                                                                                                                                                                                                                     01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
01-FEB-1991 (Rel. 17, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Rel. 40, Created)
(Rel. 40, Last sequence update)
(Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                      8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                      PRT;
Plant Mol. Biol. 38:587-596(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24.68;
33.38;
                                                                                                                                                                                                                  Query Match 26.3%;
Best Local Similarity 75.0%;
Matches 3; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Local 2; Conserva
                                                                                                                                                                                                                                                                                                                                                                  Sex pheromone CPD1
                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=1351;
                    SEQUENCE.
TISSUE-Needle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |:|:::
2 LVMFLS 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COVN_CONVE
P83047;
16-OCT-2001 (
16-OCT-2001 (
16-OCT-2001 (
                                                                                                                                                                                                                                                     7 QCFL 10
                                                                                                                                                                                                                                                                       3 OCEL 6
                                                                                                                                                                                                                                                                                                                    CPD1_ENTFA
P13269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pheromone.
                                                                                                                                                                    NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
COVN_CONVE
ID COVN_C
AC P83047
DT 16-OCT
DT 16-OCT
                                                                                                                                                                                                                                                                                                             CPD1_ENTFA
                                                                                                                                                                                                                                                                                                                      1D DTT ACC CCC CCC CCC SSO
  δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                    "Contryphan-Vn: a novel peptide from the venom of the Mediterranean vermivorous marine snall Conus ventricosus.";
Submitted (JUL-2001) to the SMISS-PROT data bank.
-i- TISSUE SPECIFICITY: Venom.
Amidation; Venom; D-amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bufo regularis (Leopard toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                       ö
Conus ventricosus (Mediterranean cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBL_TaxID=117992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 14; DB 1; Length 9;
Pred. No. 1e+05;
2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                     3; Indels
                                                                                                                                                                                                                                                                                                                                                                  Length 9;
                                                                                                                                                                                                                                                                                          AMIDATION.
8D38676323676EBA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 9 AMIDATION.
9 AA; 983 MW; 17FF476EA5A6D04B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000981; Neurhypophys_horm.
Pfam; PF00220; hormone4; 1.
PROSITE; PS00264; NEUROHYPOPHYS_HORM; FALSE_NEG
HORMORG; Amidation.
                                                                                                                                                                                                                                                                                                                                                                Score 14; DB 1;
Pred. No. 1e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                        D-TRYPTOPHAN.
                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                              24.6%;
40.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24.68;
                                                                                                                                                                                                                                                                                                           9 AA; 1091 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 24.6
Best Local Similarity 33.3
Matches 1; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                Ouery Match
Best Local Similarity
2; Conserve
```

```
061807 mus musculu
0988q4 beet soil-b
0988n5 beet soil-b
09987 homo sapien
094v18 varanus ere
094v4 varanus gla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                     Q9r9c4 borrells bu
Q9h3y3 homo sapien
Q93491 thermus the
Q25355 locusta mig
Q25355 locusta mig
Q9ty4 bos taurus
Q9ty4 sceloporus
Q9ty4 sceloporus
Q9ty1 eliocephalu
P92707 platysaurus
P92707 platysaurus
P92891 crotaphytus
O79894 gambelia wi
O79909 sauromalus
Q95875 loclaemus o
Q994X0 notophytus
Q954875 liolaemus o
                                                                                                                                                                                                                               bacteriopha
                                                                                                                                                                                                               varanus mer
                                                                                                                                                                                                                        varanus nil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                           01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NOV-1998 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
01-DEC-2001 (TrEMBLrel.)
Coxiella burnetii.
Bacteria; Proteobacteria; gamma subdivision; Legionellaceae group;
Coxiella group; Coxiella.
                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-NINE MILE PHASE I;
MEDLINE-98348442; Pubmed-9683477;
MEDLINE-98348442; Pubmed-9683477;
MILLEMS H., Jacquer C., Baljer G.;
"Physical and genetic map of the obligate intracellular bacterium coxiella burnetii.";
J. Bacteriol. 180:3816-3822(1998).
EMBL; AF064963; AAD09947.1; -..
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                              Q94vel
Q94vd8
Q38366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36.8%; Score 21; DB 2; Length 8; 75.0%; Pred. No. 5.6e+05; Live 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 AA; 993 MW; 046B5AA453772727 CRC64;
                                                                                                                                                                                                                                                                                              Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ź
                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       æ
                                      093451
025355
025355
025356
0917847
092774
092777
092891
079891
079909
091865
091865
091867
061807
      099MN0
062721
09R9C4
                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
Conservative
                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER
SEQUENCE
1 LLMW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q15890
Q15890;
                                                                                                                                                                                                                                                                                                      085406;
                                                                                                                                                                                                                                                                                              085406
                                                                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7
                                                                                                                                                                                                                                                                             RESULT
085406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
Q15890
ID Q1
AC Q1
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9esu5 mus musculu Q9h226 homo sapien Q3840 lactococcus Q48469 klebsiella Q96qa7 homo sapien Q9tg98 shinisaurus P92616 cnemidophor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    085406 coxiella bu
Q15890 homo sapien
Q9vrd2 drosophila
Q79912 chamaeleo f
Q96697 chamaeleo d
Q961x1 equus cabal
                                                 July 16, 2002, 08:01:32; Search time 26.12 Seconds (without alignments) 66.231 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09et18 mus spretus
09et17 mus caroli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P92616 cnemidophor
Q94vj4 varanus ben
                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
                                                                                                                                                              1088
       GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                             hits satisfying chosen parameters:
                                                                                                                                              562222 seqs, 172994929 residues
                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                      OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0901X1
09ESU5
09H326
03H326
03H340
04H69
09G0A7
09TG98
09TG98
09TG98
                                                                                                                     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                sp_organelle:*
sp_phage:*
    sp_plant:*
    sp_rodent:*
sp_virus:*
sp_virus:*
sp_vertebrate:*
sp_vertebrate:*
sp_vertebrate:*
sp_vertebrate:*
sp_vertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     085406
Q15890
Q9VRD2
O79912
Q9G697
                                                                                                                                                                                                                                                                   sp_human:*
sp_invertebrate:*
sp_mammal:*
                                                                                                                                                                                                                                                                                                                                                              sp_rvirus:*
sp_bacteriap:*
                                                                                    US-09-165-546A-7
57
1 LLMWITQCFL 10
                                                                                                                                                                                                                                    SPIREMBL_19:*
1: sp_archea:*
2: sp_bacteria:*
                                                                                                                                                                                                                                                                                                                                                                               sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       111
111
111
111
111
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match Length DB
                                                                                                                                                                                                                                                             sp_fung1:*
                                                                                                                                                                                                                                                                                            sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0 Maximum DB seq length: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
                                                                                                                                                                                                                                                            Total number of
                                                                                             Perfect score:
                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence:
                                                                                                                                              Searched:
                                                                                                                                                                                                                                      Database
                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
8
```

```
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          079912;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          079912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          096697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
Q9G697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         079912
           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DE PT PE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RECEIVED TO STRAIN STRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                 Lee C.-C., Yazdani A., Wehnert M., Bailey J., Couch L., Xiong M., Coolbaugh M.I., Chinault C.A., Baldini A., Lindsay E.A., Zhao Z.-Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
(CLONE XP19G12A) (FRGGMENT).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                   "Isolation of chromosome-specific genes by reciprocal probing of arrayed cubhs and cosmid libraries.";
Hum. Mol. Genet. 0:0-0(1995).
EMBL; L32083; AAA73880.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
;
                                                                                                                                                                                                                                                                                                                                                                                                              36.8%; Score 21; DB 4; Length 8; 37.5%; Pred. No. 5.6e+05; Live 3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O9VRD2;
WAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                          8 AA; 975 MW; 605EA6C5BEA5A2D3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                  TISSUE=PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CG11666 PROTEIN.
CG11666.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 WI -- TOCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1::|1:
1 WVSCSQCY 8
                                                                                                                                                                                                                                      Caskey C.T.H.;
                                                                                                                                                                                                                                                                                                                         NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9VRD2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29VRD2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
     g
```

```
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,

RA Mount S.M., Murphy B., Murphy D.M., Nelson D.L.,

RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,

RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,

RA Faincrt K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,

RA Spier E., Siden-Kiamos I., Simpson M., Strong R., Sun E.,

Syriskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,

RA Mang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,

RA Mang Z.-Y., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,

RA Jeng X.H., Zhong F.N., Zhong W., Zhou X., Zhu X., Smith H.O.,

RA Glabs R.A., Myers E.W., Rubin G.M., Venter J.C.S.,

Ra Glabs R.A., Myers E.W., Rubin G.M., Venter J.C.S.,

REMBL, AE003569; AAF508701: ---

EMBL, AE003569; AAF508701: ---

EMBL, REMBL, AE003569; AAF508701: ----

RIBBASE, FBgn0040648; CG11666.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Iguania; Acrodonta; Chamaeleonidae; Chamaeleo.
NCBL_TaxID=51755;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-97315309; Pubmed-9169559;
Macey J.R., Larson A., Ananjeva N.B., Papenfuss T.J.;
Macey J.R., Larson A., Ananjeva N.B., Papenfuss T.J.;
"Evolutionary shifts in three major structural features of mitochondrial genome among iguanian lizards.";
D. Mol. Evol. 44:660-674(1997).
EMBL; U82688; AAC62275.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      35.1%; Score 20; DB 5; Length 8; 100.0%; Pred. No. 5.6e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NON_TER 10 10 10 SEQUENCE 10 AA; 1319 MW; 5E218E2733640727 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           096697;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
CYTOCHROME C OXIDASE SUBUNIT I (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ED11B5B044004376 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
CYTOCHROME C OXIDASE SUBUNIT I (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 20; DB 8; I
Pred. No. 2.2e+03;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  35.1%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1062 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chamaeleo fischeri.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            || |:
LLRWL 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWI 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWI 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 MWI 5
```

```
STRAIN=C3H/HE;
MEDLINE=20127858; PubMed=10660538;
Munsch D., Watanabe-Fukunaga R., Bourdon J.C., Nagata S., May E.,
Yonish-Rouach E., Reisdorf P.;
"Human and mouse Fas (APO-1/CD95) death receptor genes each contain above reserved that is activated by p53 mutants unable to
                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butharia; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kim Y. O., Koh H. J., Jo S.-H., Son M.-K., Huh T.-L.;
"Structural and functional characterization of the human NAD+-
dependent isocitrate dehydrogenase alpha subunit promoter.";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF157515; AAG43379.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 19; DB 11; Length 10;
Pred. No. 3.3e+03;
2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity 50.0%; Pred. No. 5.6e+05; 2; Conservative 2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
NAD+-DEPENDENT ISOCITRATE DEHYDROGENASE 3 ALPHA SUBUNIT (FRACMENT).
                                                                                                                                                                                                                                                                                                                                                                                          22145E32CDC37043 CRC64;
01-MAR-2001 (TIEMBLIEL. 16, Created)
01-MAR-2001 (TIEMBLIEL. 16, Last sequence update)
01-MAR-2001 (TIEMBLIEL. 16, Last annotation update)
FAS DEATH RECEPTOR (FRAGMENT).
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 AA; 960 MW; C91CB0437DC7687D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ź
                                                                                                                                                                                                                                                                                                 induce apoptosis.";
J. Biol. Chem. 275:3867-3872(2000).
EMBL; AF282865; AAG02410.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 33.3%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                         10 10
10 AA; 1242 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 33.3
Best Local Similarity 50.0
Matches 2; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ||::
6 WISK 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ::||
1 MLWI 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 LMWI 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 WITO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                        Receptor.
                                                                                                                                                                                                                                                                                                                                                                         NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q38340
Q38340;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09н326,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09н326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
Q38340
ID Q3
AC Q3
DT 01
DT 01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Iguania; Acrodonta; Chamaeleonidae; Chamaeleo.
NCBL_TaxID-91908;
                                                                                                                                                                                                                                      SEQUENCE FROM N.A. Macey J.R. II, Larson A., Ananjeva N.B., Wang Y., Macey J.R., Schulte J.A. II, Larson A., Ananjeva N.B., Wang Y., Pethiyagoda R., Rastegar-Pouyani N., Papenfuss T.J.; "Evaluating Trans-Tethys migration: An example using Acrodont lizard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-20082971; PubMed-10613847;
Caetano A.R., Shiue Y.L., Lyons L.A., O'Brien S.J., Laughlin T.F.,
Bowling A.T., Murray J.D.;
A comparative gene map of the horse (Equus caballus).";
Genome Res. 9:1239-1249(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus,
                                                                                                                                                 Macey J.R., Schulte J.A. II, Larson A.;
"Evolution and information content of the mitochondrial genomic
structural features illustrated with acrodont lizards.";
Syst. Biol. 49:257-277(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 20; DB 8; Length 10;
Pred. No. 2.2e+03;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33.3%; Score 19; DB 6; Length 10; 66.7%; Pred. No. 3.3e+03; ive 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                        NON_TER 10 10 SEQUENCE 10 AA; 1319 MW; 5E218E2733640727 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10 AA; 1144 MW; C4EA25676B02D6DD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
ALCOHOL DEHYDROGENASE 3 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                 Syst. Biol. 49:233-256(2000).
EMBL; AF128460; AAG00617.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              35.1%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Equus caballus (Horse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                  Chamaeleo dilepis.
                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                    phylogenetics.
                                                                                                                                                                                                                                                                                                                                                                         Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LLMWI 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             || |:
3 LLRWL 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 WVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 WIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9ESUS
Q9ESUS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09N1X1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9N1X1
```

ø

RESULT Q9N1X1

g

ò

ö

Gaps

ö

ಡ

ö

Gaps

ö

RESULT 7

g

ŏ

**09ESU5** 

A B

```
Best Local Similarity
                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=52224;
   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 MWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ||: |
| MTITRWE 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mitochondrion.
                                                                                                                                                                                                                                                                                                                                            Mitochondrion.
                                                                                                                                                                 2 LMWI 5
                                                                                                                                                                               : | {
1 MOWI 4
                                                                                                                                                                                                                                                                                                                                                                               Shinisaurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P92616;
                                                                                                                                                                                                                                                 09TG98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P92616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
P92616
                                                                                                                                                                                                                          RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                    Q9TG98
   OX
RR
RR
DR
FT
SQ
                                                                                                                                                                   ò
                                                                                                                                                                                      g
                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                       MEDLINE=96084945; PubMed=7489923;
Waterfield N.R., Lebage R.W., Wilson P.W., Wells J.M.;
Waterfield N.R., Lebage R.W., Wilson P.W., Wells J.M.;
Waterfield N.R., Lebage R.W., Wilson P.W., Wells J.W.;
The isolation of lactococcal promoters and their use in investigating bacterial luciferase synthesis in Lactococcus lactis.";
Gene 165:9-15(1995)
Gene 165:9-15(1995)
Gene 165:9-15(1995)
SEQUENCE 9 AA; 1054 WW; 7098B2CEA6D3372B CRC64;
                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0960A7;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
BAISIA2.1 (CDC42 GUANINE EXCHANGE FACTOR (GEF) 9 (COLLYBISTIN, PEM-2, RIAA0424)) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                               no RNA stage; Caudovirales; Siphoviridae.
                                                                                                                                                                                                                                                                                                                                                                                                             Klebsiella pneumoniae.
Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shen S.C., Xue Z.T., Kong Q.T., Wu Q.L.;
"An open reading frame upstream from the nifH gene of Klebsiella
                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29.8%; Score 17; DB 2; Length 10; 50.0%; Pred. No. 7.5e+03; Live 1; Mismatches 2; Indels
                                                                                                                                                                                                           29.8%; Score 17; DB 9; Length 9; 50.0%; Pred. No. 5.6e+05; 1ve 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pneumoniae.";
Nucleic Acids Res. 11:4241-4250(1983).
EMBL; X01006; CAA25501.1;
NON_TER 10
SEQUENCE 10 AA; 1173 MW; B130695DDEA6C406 CRC64;
                                                                                                                                                                                                                                                                                                                                                            01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
NITROCENASE (FRAGMENT).
01-DEC-2001 (TrEMBLrel. 19, Last annotation update) ORF PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 AA.
                                                                                                                                                                                                                                                                                                                                           10 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Mismatches
                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=83246546; PubMed=6306580;
Shen S.C., Xue Z.T., Kong Q.T., Wi
                                                                                                                                                                                                                                   3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3; Conservative
                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                             Viruses; dsDNA viruses,
NCBI_TaxID=39838;
                                   Lactococcus phage 936.
                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 3; Conserv
                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Klebsiella.
NCBI_TaxID=573;
                                                                                                                                                                                                                                                                     | : ||
1 MELKQC 6
                                                                                                                                                                                                                                                        3 MWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 MWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | : ||
1 MTMRQC 6
                                                                                                                                                                                                                                                                                                                                      048469
048469;
                                                                                                                                                                                                                                                                                                                RESULT 10
Q48469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0960A7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
Q96QA7
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                     ò
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Molecular phylogenetics, tRNA evolution, and historical biogeography in anguld lizards and related taxonomic families.";
Mol. Phylogenet. Brol. 12:250-272(1999).
EMBL; AF085604; AD51502.1; ...
                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mitochondrion.

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Scincomorpha; Telioidea;
ICELIdae; Cnemidophorus.

NCBI_TAXID=52180;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Shinisauridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
MEDLINE-99343613; PubMed-10413621;
Macey J.R. Schulte J.A. II, Larson A., Tuniyev B.S., Orlov N.,
Papenfuss T.J.;
                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29.8%; Score 17; DB 8; Length 10; 57.1%; Pred. No. 7.5e+03; Live 1; Mismatches 2; Indels
                                                                                                                                                                              Score 17; DB 4; Length 10;
Pred. No. 7.5e+03;
1; Mismatches 1; Indels
NON_TER 10 10 SEQUENCE 10 AA; 1122 MW; 39925CB878640043 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NON_TER 10 10 10 SEQUENCE 10 AA; 1290 MW; 1CEE80C9D36411A0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
CYTOCHROME C OXIDASE SUBUNIT I (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NAY-1997 (TrEMBLrel. 03, Created)
01-NAY-1997 (TrEMBLrel. 03, Last sequence update)
01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
CYTOCHROME C OXIDASE SUBUNIT I (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                             10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10 AA.
                                                                                                                                                                              Query Match 29.8%;
Best Local Similarity 50.0%;
Matches 2; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shinisaurus crocodilurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cnemidophorus tigris.
```

```
NCBI_TaxID=10096;
                                                                                                                                                                                                                                                                  MW
4
                                                                                                                                                                                                                                                                                 MW 8
                                                                                                                                                                                                                                                                  3
   OX
RR
RR
RR
RL
RR
RL
RL
SO
SO
SO
                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mitochondrion.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Varanidae; Varanus.
NCBL_TaxID=169827;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ast J.C.; "Mitochondrial DNA evidence and evolution in Varanoidea (Squamata)."; Cladistics 17:0-0(2001).
EMBL; AF407492; AAL10031.1; -.
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                      MEDLINE-97153820; PubMed-9000751;
Macey J.R., Larson A., Ananjeva N.B., Papenfuss T.J.;
"Replication slippage may cause parallel evolution in the secondary structures of mitochondrial transfer RNAs.";
MOI. Biol. Evol. 14:30-39(1997).
EMBL; U71332; AAB48274.1; -.
                            Macey J.R., Larson A., Ananjeva N.B., Fang Z., Papenfuss T.J.; "Two novel gene orders and the role of light strand replication in rearrangement of the vertebrate mitochondrial genome."; Mol. Biol. Evol. 14:91-104(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2001 (TrEWBLrel. 16, Created)
01-MAR-2001 (TrEWBLrel. 16, Last sequence update)
01-MAR-2001 (TrEWBLrel. 16, Last annotation update)
NEUROPEPTIDE Y (FRAGMENT).
Mus spretus (Western wild mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                            Query Match 29.8%; Score 17; DB 8; Length 10; Best Local Similarity 57.1%; Pred. No. 7.5e+03; Matches 4; Conservative 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 16; DB 8; Length 8;
Pred. No. 5.6e+05;
3; Mismatches 1; Indels
                                                                                                                                                                                                                Mitochondrion.

NON_TER 10 10

SEQUENCE 10 AA; 1290 MW; ICEE80C9D36411A0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CYTOCHROME C OXIDASE SUBUNIT I (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E8B5B9C733640056 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                MEDLINE-97153826; PubMed-9000757;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COI.
Varanus bengalensis nebulosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28.1%;
20.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 8
8 AA; 1053 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 28.1
Best Local Similarity 20.0
Matches 1; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                        SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                         3 MWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                           | ||: |
| MTITRWF 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :: |:
1 MIRWL 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLLMWI 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q94VJ4
Q94VJ4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9ET18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9ET18
                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09ET18
                                                                                                                                                                                                                                                                                                                                                                                                                                                   094VJ4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
```

4

```
GenCore version 4.5

Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on:

July 16, 2002, 07:48:27; Search time 26.34 Seconds

(without alignments)

42.169 Million cell updates/sec

Title:

Perfect score:

1 LLMWITQCFL 10

Scoring table:

Scoring table:

BLOSUM62

Gapop 10.0, Gapext 0.5

Searched:

747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0

Maximum Match 00%

Listing first 45 summaries
```

A\_Geneseq\_032802:\*

| SIDSI/gcgdata/hold-geneseq/geneseqp-embl/AA1980.DAT:\*
| SIDSI/gcgdata/hold-geneseq/geneseqp-embl/AA1982.DAT:\*
| SIDSI/gcgdata/hold-geneseqg-embl/AA1982.DAT:\*
| SIDSI/gcgdata/hold-geneseqg-embl/AA1982.DAT:\*
| SIDSI/gcgdata/hold-geneseqg-embl/AA1982.DAT:\*
| SIDSI/gcgdata/hold-geneseqg-embl/AA1983.DAT:\*
| SIDSI/gcgdata/hold-geneseqg-embl/AA1980.DAT:\*
| SIDSI/gcgdata/hold-geneseqg/geneseqp-embl/AA1980.DAT:\*
| SIDSI/gcgdata/hold-geneseqg/geneseqp-embl/AA1980.DAT:\*
| SIDSI/gcgdata/hold-geneseqg/geneseqp-embl/AA1980.DAT:\*
| SIDSI/gcgdata/hold-geneseqg/geneseqp-embl/AA1990.DAT:\*
| SIDSI/gcgdata/hold-geneseq/geneseqp-embl/AA1990.DAT:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

S		Description		Human cancer antiq	Human tumour antig	Human cancer antig	Human cancer antig	NY-ESO-1 derived p	Cancer testis tumo	Cancer testis tumo	Human NY-ESO-1 HLA	Human NY-ESO-1 HLA	Human cancer antiq	HLA-A2 binding NY-
SUMMARIES		QI			AAY52434	AAY06032	AAY06033	AAY79756	AAG67170	AAG67171	AAB69902	AAB69903	AAY06006	AAB85307
		DB	;	20	21	20	20	21	22	22	22	22	20	22
		Query e Match Length DB I		10	10	6	6	σ	0	6	6	6	10	10
,	dР	Query Match	-	100.0	100.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0
		Score		57	57	53	53	53	53	53	53	53	53	23
		Result No.		1	7	m	4	S	9	7	80	6	10	11

Rosenberg SA, Wang RF; WPI; 1999-277270/23.

XXXX

## ALIGNMENTS

```
8888888888888888888888888
                                                                                                                                                                                                                                                                                                       δλ
                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                            This peptide was identified as an HLA peptide motif following a screen for epitopes from the coding region of human ESO-1/CAG-3 CAR1 (see AAX05889.VGO(017) were identified. The present peptide (ranked 16) corresponds to amino acid residues to manno acid residues to manno acid residues consent peptide (ranked 16) corresponds to amino acid residues tumour antigen capable of eliciting an antigen specific immune response by T cells. Cancer peptides (see AAX0567-87) derived from CAG-3, portions of CAG-3 and their variants, are useful as cancer vaccines. A claimed method of preventing or inhibiting cancer involves administering a cancer peptide, with or without an HLA molecule. The cancer peptides form part of, or are derived from cancers such as primary or metastatic melanoma, thymoma, Iung cancer, laver cancer, leukaemia, uterine cancer, cervical cancer, bladder cancer, leukaemia, uterine cancer, cervical cancer, bladder cancer, kidney cancer and cancer, and shreast, prostate, ovarian, pancreatic and
                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cancer; tumour; antigen; MHC; major histocompatility complex; Class I; T-cell; cytotoxic; stimulation; proliferation; treatment; diagnosis; prevention; melanoma; breast cancer; ovarian cancer; prostate cancer; hepatoma; thyroid cancer; bladder cancer; lung cancer;
                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel peptides which bind to MHC class I and MHC class II molecules, useful for therapeutic and diagnostic purposes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stockert E, Jager E, Chen Y, Scanlan M, Alexander K, Old LJ;
Gure A, Ritter G;
                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                        100.0%; Score 57; DB 20; Length 10; 100.0%; Pred. No. 0.002; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human tumour antigen NY-ESO-1 peptide #7.
                        Example 10; Page 42; 88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                       AAY52434 standard; peptide; 10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 55; Page 20; 49pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (LUDW-) LUDWIG INST CANCER RES
Cancer antigen NY ESO1/CAG-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0062422.
98US-0165546.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US06875.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-FEB-2000 (first entry)
                                                                                                                                                                                                                                                                                                   Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-038483/03.
                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                   10 AA;
                                                                                                                                                                                                                               thyroid cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9953938-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-OCT-1999
                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY52434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lymphoma
                                                                                                                                                                                                                                                                                                                                                                                                            AAY 52434
                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                        ò
```

```
Peptides #4-#7 (AAV52431-Y52434) are peptides derived from the human tunnour antigen, NY-E50-1 (AAV52430) which contain the motif LLMWIT (AAV52441). These sequences can bind to MHC (major histocompatibility class I HLA-A2 molecules, thereby stimulating proliferation of cytotoxic T-cells. CDNA encoding NY-ESO-1 was initially isolated from an oesophagus squamous cell cancer CDNA library. Tissue localisation studies revealed it to be expressed at high levels in normal ovary and testis but not in normal colon, kidney, liver, brain, oesophagus and skin. It was expressed in certain tunnours and tunnour cell lines with some degree of frequency - these included melanoma specimens and cell lines, and breast and bladder cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This peptide was identified as an HLA peptide motif following a screen for epitopes from the coding region of human ESO-1/CAG-3 ORF1 (see AAX58599). 30 Epitopes (see AAY06018-47) were identified. The present peptide (ranked 15) corresponds to amino acid residues 159-167 of CAG-1 ORF1 (see AAY05965). CAG-1 is a new and potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cervical cancer; bladder cancer; kidney cancer; pancreatic cancer;
liver cancer; sarcoma; tumour; diagnosis; immunotherapy; therapy;
vaccine; human leukocyte antigen; HLA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancers (such as melanoma, breast cancer, prostate cancer, lung cancer, hepatoma, ovarian cancer, thyroid cancer, bladder cancer, or lymphoma) and to stimulate the proliferation of T cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NY ESO-1/CAG-3 gene; CAG-3 gene; cancer peptide; antigen; human; leukaemia; non-Hodgkins lymphoma; Hodgkins lymphoma; lung cancer; metastasis; melanoma; adenocarcinoma; thymoma; colon cancer; uterine cancer; breast cancer; prostate cancer; ovarian cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                     specimens, with expression in other tumour types being sporadic. These NY-ESO-1-derived peptides may be used in methods and compositions used for the treatment, diagnosis and prevention of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 57; DB 21; Length 10; 100.0%; Pred. No. 0.002; 1ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human cancer antigen NY ESO-1/CAG-3 HLA peptide motif.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 10; Page 43; 88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY06032 standard; Peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cancer antigen NY ESO1/CAG-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98WO-US19609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0061428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rosenberg SA, Wang RF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-277270/23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9918206-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-APR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY06032;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY06032
```

ö

```
ö
tumour antigen capable of eliciting an antigen specific immune response by T cells. Cancer peptides (see AAY05967-87) derived from CAG-3, portions of CAG-3 and their variants, are useful as cancer vaccines. A claimed method of preventing or inhibiting cancer involves administering a cancer peptide, with or without an HLA molecule. The cancer peptides form part of, or are derived from, cancers such as primary or metastatic melanoma, thymoma, from, cancers such as primary or metastatic melanoma, thymoma, arcoma, lung cancer, liver cancer, leukaemia, uterine cancer, cervical cancer, bladder cancer, kidney cancer and adenocarcinomas such as breast, prostate, ovarian, pancreatic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This peptide was identified as an HLA peptide motif following a screen for epitopes from the coding region of human ESO-1/CAG-3 ORF1 (see AAX58599). 30 Epitopes (see AAV06018-47) were identified. The present peptide (ranked 16) corresponds to amino acid residues 158-166 of CAG-1 ORF1 (see AAY05965). CAG-1 is a new and potent tumour antigen capable of eliciting an antigen specific immune response by T cells. Cancer peptides (see AAY05967-87) derived from CAG-3, portions of CAG-3 and their variants, are useful as cancer vaccines. A ctained method of preventing or inhibiting cancer involves administering a cancer peptide, with or without an HLA molecule. The cancer peptides form part of, or are derived
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NY ESO-1/CAG-3 gene; CAG-3 gene; cancer peptide; antigen; human; leukaemia; non-Hodgkins lymphoma; Hodgkins lymphoma; lung cancer; metastasis; metanoma; adenocarcinoma; thymoma; colon cancer; uterine cancer; breast cancer; prostate cancer; ovarian cancer; cervical cancer; bladder cancer; kidney cancer; pancreatic cancer; liver cancer; sarcoma; tumour; diagnosis; immunotherapy; therapy; vaccine; human leukocyte antigen; HLA.
                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                       Length 9;
                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human cancer antigen NY ESO-1/CAG-3 HLA peptide motif.
                                                                                                                                                                                                                                                                                                                            ..
                                                                                                                                                                                                                                                                                     Score 53; DB 20; I
Pred. No. 6.4e+05;
                                                                                                                                                                                                                                                                        93.0%; Score
100.0%; Pred. No. c.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (USSH ) US DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 10; Page 43; 88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY06033 standard; Peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cancer antigen NY ESO1/CAG-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98WO-US19609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97US-0061428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                   Ouery Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rosenberg SA, Wang RF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1999-277270/23
                                                                                                                                                                                                                                                                                                                                                             2 LMWITQCFL 10
                                                                                                                                                                                                                               9 AA;
                                                                                                                                                                                           thyroid cancers
                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9918206-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-APR-1999
                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY06033;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY06033
                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               $$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                                                 õ
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cancer, which is not metanoma or synovial sarcoma. The method comprises assaying a sample taken from the subject to determine the expression of an SSX gene, and determining the expression as a determination of the possible presence of cancer. Expression of SSX1 gene indicates possible presence of breast, endometrial, colorectal, lung, bladder or head-neck cancer. These cancers are also detected by SSX2 and SSX4 gene expression. SSX2 gene expression additionally indicates possible presence of lymphoma, renal cell cancer, glioma and prostate cancer. Expression of SSX4 gene also indicates possible presence of ovarian or stomach cancer. SSX5 gene expression indicates the same cancers as SSX1, except breast cancer. Determining expression of SSX gene can be used to monitor progress of melanoma or synovial sarcoma, which is not cancer. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cells. This is useful for treating cancer, especially melanoma. AAY78464 to AAY78468 represent specifically claimed HLA binding peptides for use in the method of the invention. AAZ88452 to AAZ88465 represent PCR primers used in the isolation of SSX genes in the exemplification of the present invention. AAY78469 to AAY78500, and AAX79684 to AAX79762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A method has been developed for determining the possible presence of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Determining the possible presence of breast, endometrial, colorectal,
                                                                                                                                                                                                     Gaps
from, cancers such as primary or metastatic melanoma, thymoma, pupphoma, sarcoma, lung cancer, liver cancer, leukaemia, uterine cancer, cervical cancer, bladder cancer, kidney cancer and adenocarcinomas such as breast, prostate, ovarian, pancreatic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSX-derived peptide complex stimulates proliferation of cytolytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cancer; SSX family; SSX-1; SSX-2; SSX-3; SSX-4; SSX-5; NY-ESO-1; HLA binding; human leukocyte antigen; cytolytic T cell; CTL; cytostatic; melanoma; synovial sarcoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stevanovic
                                                                                                                                                                                                     ö
                                                                                                                                              ; DB 20; Le..,
lo. 6.4e+05; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rammensee G,
                                                                                                                                                             Score 53; DB 2
Pred. No. 6.46
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfreundschuh M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 13; Page 26; 40pp; English.
                                                                                                                                                  93.0%; scc.
100.0%; Pred
0; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lung, bladder or head-neck cancer
                                                                                                                                                                                                                                                                                                                                                                  AAY79756 standard; Peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (LUDW-) LUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NY-ESO-1 derived peptide #12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US14493.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0105839
                                                                                                                                                                                                                                                                                                                                                                                                                                          10-MAY-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , Sahin U, Pfre
Gure A, Old LJ;
                                                                                                                                                               Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-170933/15
                                                                                                                                                                                                                                      1 LLMWITQCF 9
                                                                                                            9 AA;
                                                                       thyroid cancers.
                                                                                                                                                                                                                                                           WO200000824-A1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-JAN-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tureci O,
                                                                                                                                                                                                                                                                                                                                                                                                      AAY79756;
                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen Y,
                                                                                                                                                                                                                                                                                                                                 RESULT
 8888888
                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                          QQ
```

```
AAG67171 standard; peptide; 9 AA.
                                                                                                                                                                           13-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-AUG-2001
                                                                                                       AAG67171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB69902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
AAB69902
   AAG67171
                                          H T D D X D X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
represent peptides derived from SSx proteins or NY-ESO-1, which are used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cancer testis tumour antigen; NY-ESO-1; LAGE-2; human leukocyte antigen; HLA; HLA binding peptide; major histocompatibility complex; MHC; tumour; cancer; testis tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genomic sequences of tumour associated antigen EY-ESO-1 (LAGE-2) useful for diagnosing testicular tumours .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG67169-AAG67206 represent peptides which are derived from cancer testis tumour antigen NY-ESO-1 (also called LAGE-2). The peptides bind to human leukocyte antigens (HLAA). NY-ESO-1 is a molecule that is processed to at least one human leukocyte antigen (HLAA) binding peptide, which binds to Class I and Class II major histocompatibility complex (MHC). NY-ESO-1 is expressed in tumour mRNA and in testis, but not normal colon, kidney, liver or brain tissue. The presence or level of expression of NY-ESO-1 may be assayed for the diagnosis of cancer, especially testis tumours.
                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                               ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                           Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 9;
                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cancer testis tumour antigen NY-ESO-1 derived peptide.
                                                                                                                                                                                                           DB 21; L
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93.0%; Score 53; DB 22; I
100.0%; Pred. No. 6.4e+05;
iive 0; Mismatches 0;
                                                                                                                                                                                                    93.0%; Score 53; DB
100.0%; Pred. No. 6.4
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 13; Page 26; 50pp; English,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAG67170 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-JAN-2001; 2001WO-US02126.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22-FEB-2000; 2000US-0510635.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Boon-Falleur T;
                                                                                                                                                                                                                                                                               9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-550091/61.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                            2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 À,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200162917-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lethe B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAG67170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seguence
                                                                                                                                                                                                           Query Match
                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genomic
                                                                                                                                                                                                                                           Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAG67170
SSXS
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME OF THE PROPERTY OF THE PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
ö
                                                                                         Cancer testis tumour antigen; NY-ESO-1; LAGE-2; human leukocyte antigen; HLA; HLA binding peptide; major histocompatibility complex; MHC; tumour; cancer; testis tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genomic sequences of tumour associated antigen EY-ESO-1 (LAGE-2) useful for diagnosing testicular tumours ^{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG67169-AAG67206 represent peptides which are derived from cancer testis tumour antigen NY-ESO-1 (also called LAGE-2). The peptides bind to human leukocyte antigens (HLAA). NY-ESO-1 is a molecule that is processed to at least one human leukocyte antigen (HLAA) binding peptide, which binds to Class I and Class II major histocompatibility complex (MHC). NY-ESO-1 is expressed in tumour mRNA and in testis, but not normal colon, kidney, liver or brain tissue. The presence or level of expression of NY-ESO-1 may be assayed for the diagnosis of cancer, especially testis tumours.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; NY-ESO-1; HLA; human leukocyte antigen; CTL; cytotoxic T cell; HLA-A2; HLA-DR53; melanoma; adenocarcinoma; bladder carcinoma; non-small cell lung carcinoma; tumour status determination.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                               Cancer testis tumour antigen NY-ESO-1 derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93.0%; Score 53; DB 22; I
100.0%; Pred. No. 6.4e+05;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human NY-ESO-1 HLA binding motif #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 13; Page 26; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB69902 standard; Peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                      22-FEB-2000; 2000US-0510635.
                                                                                                                                                                                                                                                                                                                                                    22-JAN-2001; 2001WO-US02126
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lethe B, Boon-Falleur T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-550091/61.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 AA;
                                                                                                                                                                                                                                                  WO200162917-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200107917-A1
                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
```

Ξ

Scanlan

ſ

SLOK

```
The present sequence is given in a specification relating to a method for determining the status of a cancerous condition in a patient with a tumour that expresses NY-ESO-1. The method comprises assaying a sample taken from the patient for antibodies that specifically bind to from assay of a prior sample taken from the patient. Any difference between the values is indicative of a change in status of the cancerous condition. The method is useful for determining whether a cancerous condition is progressing or remaining stable; in particular in patients receiving treatment for a melanoma, adenocarcinoma, non-small cell lung carcinoma or bladder carcinoma.
                                                                                                                                              Method useful for determining the status (e.g. progression, regression or stability of the disease) of a cancerous condition, involves determining the levels of NY-ESO-1 specific antibodies in a sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NY ESO-1/CAG-3 gene; CAG-3 gene; cancer peptide; antigen; human; leukaemia; non-Hodgkins lymphoma; Hodgkins lymphoma; lung cancer; metastasis; melanoma; adenocarcinoma; thymoma; colon cancer; uterine cancer; breast cancer; prostate cancer; ovarian cancer; cervical cancer; bladder cancer; kidney cancer; pancreatic cancer; liver cancer; sarcoma; tumour; diagnosis; immunotherapy; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human cancer antigen NY ESO-1/CAG-3 HLA peptide motif.
                               Chen Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 53; DB 22; Pred. No. 6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.0%; Scor.
100.0%; Pred. No. o...
                               Knuth A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vaccine; human leukocyte antigen; HLA
                                                                                                                                                                                                                                                                                                   Example 14; Page 24; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 10; Page 42; 88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY06006 standard; Peptide; 10 AA.
                           old LJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cancer antigen NY ESO1/CAG-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97US-0061428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98WO-US19609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rosenberg SA, Wang RF;
                               Stockert E,
                                                                                                                                                                                                                                           taken from a patient
                                                                                      WPI; 2001-182822/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1999-277270/23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9918206-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-APR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY06006;
                               Jager E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY06006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE STATE OF THE S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for determining the status of a cancerous condition in a patient with a tumour that expresses NY-ESO-1. The method comprises assaying a sample taken from the patient for antibodies that specifically bind to the NY-ESO-1 and comparing the value obtained to a prior value obtained form assay of a prior sample taken from the patient. Any difference between the values is indicative of a change in status of the cancerous condition. The method is useful for determining whether a cancerous condition is progressing, regressing or remaining stable, in particular in patients receiving treatment for a melanoma, adenocarcinoma, non-small cell lung carcinoma or bladder carcinoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Method useful for determining the status (e.g. progression, regression or stability of the disease) of a cancerous condition, involves determining the levels of NY-ESO-1 specific antibodies in a sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence is given in a specification relating to a method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; NY-ESO-1; HLA; human leukocyte antigen; CTL; cytotoxic T cell;
HLA-A2; HLA-DR53; melanoma; adenocarcinoma; bladder carcinoma;
non-small cell lung carcinoma; tumour status determination.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                               Scanlan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 53; DB 22; Length 9;
Pred. No. 6.4e+05;
0; Mismatches . 0; Indels
                                                                                                                                                                                                                                                                                                                               Chen Y,
                                                                                                                                                                                                                                                                                                                               Old LJ, Knuth A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (LUDW-) LUDWIG INST CANCER RES.
(SLOK ) SLOAN KETTERING INST CANCER RES.
(CORR ) CORNELL RES FOUND INC.
                                                                                                                                                                                                                                  SLOAN KETTERING INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human NY-ESO-1 HLA binding motif #3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 14; Page 24; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93.0%; Scc.
100.0%; Pre
0; }
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB69903 standard; Peptide; 9 AA.
                                                                                                                                                                                                         (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                 (CORR ) CORNELL RES FOUND INC.
                                                                                   14-JUL-2000; 2000WO-US19220.
                                                                                                                                              99US-0359503,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-JUL-2000; 2000WO-US19220.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0359503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match
Best Local Similarity 100..
                                                                                                                                                                                                                                                                                                                               Stockert E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     taken from a patient
                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-182822/18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWITQCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 11mwitqcf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200107917-A1.
                                                                                                                                              23-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                        01-FEB-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-FEB-2001.
                                                                                                                                                                                                                                                                                                                               Jager E,
```

Sequence

AAB69903;

σ

Ωp

ŏ

AAB69903 RESULT

ö

Gaps

ö

Length 9; Indels

```
This peptide was identified as an HLA peptide motif following a screen for epitopes from the coding region of human ESO-1/CAG-3 ORP1 (see AAY5859). 30 Epitopes (see AAY6889-Y06017) were identified. The present peptide (ranked 19) corresponds to amino acid residues 157-166 of CAG-1 ORF1 (see AAY05965). CAG-1 is a new and potent tumour antityen capable of eliciting an antityen specific immune response by T cells. Cancer peptides (see AAY05967-87) derived from CAG-3, portions of CAG-3 and their variants, are useful as cancer vaccines. A claimed method of preventing or inhibiting cancer involves administering a cancer peptides (orm part of, or are derived colecule. The cancer peptides form part of, or are derived from cancers such as primary or metastatic melanoma, thymoma, cancer, carcoma, lung cancer, luver cancer, leukaemia, uterine cancer, cervical cancer, bladder cancer, kidney cancer and adenomas such as breast, prostate, ovarian, pancreatic and
                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention provides NY-ESO-1 peptide derivatives which bind to human leukcoyte antigen (HLA) molecules and provokes lysis by cytolytic T cells (CTLS). The NK-ESO-1 nonapeptide is of formula SLLWWITQX, where X is an amino acid having an uncharged polar side chain. The NY-ESO-1 peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel isolated NY-ESO-1 nonapeptide useful for determining if a cell presents human leukocyte antigen-A2 molecule on its surface, binds to human leukocyte antigen molecules and provokes lysis by cytolytic T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NY-ESO-1; human leukocyte antigen; HLA; lysis; cytolytic T cell; CTL; HLA-A2; T-cell sorter; tumor; immune tetramer.
                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                      .;
O
                                                                                                                                                                                                                                                                                                                                                                               93.0%; Score 53; DB 20; Length 10; 100.0%; Pred. No. 0.0097; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HLA-A2 binding NY-ESO-1 peptide (residues 157-166).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cerundolo V;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Romero P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 11; Page 11; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB85307 standard; peptide; 10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (LUDW-) LUDWIG INST CANCER RES. (UYOX-) UNIV OXFORD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-NOV-1999; 99US-0440621.
25-FEB-2000; 2000US-0514036.
29-SEP-2000; 2000US-0676005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-NOV-2000; 2000WO-US42010.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cerottini J,
                                                                                                                                                                                                                                                                                                                                                                                                                      9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-451454/48.
                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                           thyroid cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200136453-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-MAY-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Valmori D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB85307;
                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB85307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
ó;
derivatives are useful for determining if a cell presents an HLA-A2 molecule on its surface, by contacting a sample containing the cell with the peptide or its derivative, and determining binding between them, where the binding is indicative of HLA-A2 on the surface of the cell. The NY-ESO-1 peptides and analogues are useful therapeutically, for administration to a patient who is HLA-A2 positive and expresses NY-ESO-1 in connection with the pathology, as well as diagnostically, i.e. to determine if HLA-A2 positive cells are present, or if relevant CTLS are present. They are also useful for determining the presence of CTLs in a sample. The peptides are useful as T-cell sorters, when incorporated into timmune tetramers. The present sequence represents a NY-ESO-1 peptide that can bind to HLA-A2 molecule.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptides AAW62585-87 are derived from cancer associated antigen NN-ESO-1, and are stimulators of cytotoxic T-cells. The specification describes a method for determining regression, progression of onset of cancercous condition, comprising monitoring a sample from a patient with the cancerous condition for a parameter selected from NY-ESO-1 protein, a peptide derived from NY-ESO-1 protein, appetide derived from NY-ESO-1 protein, appetide derived from NHC molecule with which it non-covalently complexes. Methods for the treatment of a cancerous condition are also described. The NY-ESO-1 protein and peptides derived from it can be used for diagnosis and treatment of cancers and to monitor the efficacy of a therapeutic regime.
                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cancer associated antigen; NY-ESO-1; regression; progression; onset;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New isolated cancer associated antigen - is used to develop products for the diagnosis and treatment of cancers and for monitoring cancer
                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                      Length 10;
                                                                                                                                                                                                                                                                                                  93.0%; Score 53; DB 22; Length 10
100.0%; Pred. No. 0.0097;
.ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Knuth A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jager E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cancer associated antigen peptide.
                                                                                                                                                                                                                                                                                                          93.00.
100.08; PIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW62586 standard; Peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 33; Page 17; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drijfhout JW, Gure A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cancer; treatment; diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96US-0725182.
                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1998-286417/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scanlan M;
                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                  10 AA;
                                                                                                                                                                                                                                                                                                                                                                               1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9814464-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-APR-1998.
                                                                                                                                                                                                                                                                                                                                            ..
o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW62586;
                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chen Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  old LJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 12
                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW62586
     2222222222222X8
                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

1

X S

g

ò

```
AAB08668-B08704 represent antigenic peptides characteristic of tumours. The peptides may be combined in vaccines with a human EphA3 HLA (human leukocyte antigen) class II-binding peptide. EphA3 antigens, when presented by an antigen presenting cell having a HLA class II molecule, effectively induce activation and proliferation of CD4+T lymphocytes. EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used for selectively enriching a population of T lymphocytes. The peptides are also used for diagnosing a disorder characterized by EphA3 or EphA3 HLA binding peptide expression. The peptides are also used to treat a disorder characterized by EphA3 expression. The EphA3 binding peptides are useful in producing vaccines and antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel tyrosine kinase receptor, EphA3 human leukocyte antigen (HLA) class II binding peptide and nucleic acid encoding the receptor, useful for diagnosing and treating conditions characterized by expression of
                                                                                                                                            EphA3; HLA class II-binding peptide; human leukocyte antigen; antigen; CD4+ T lymphocyte; tumour associated gene; vaccine.
                                                                                                                 Antigenic peptide from tumour rejection antigen NY-ESO-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82.5%; Score 47; DB 21; I
100.0%; Pred. No. 6.4e+05;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NY-ESO-1 peptide epitope, SEQ ID NO:2.
                                                                                                                                                                                                                                                                                                                                                                                 Boon-Falleur T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 36; 107pp; English.
                            AAB08703 standard; Peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB22791 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                    (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                             2000WO-US04326.
                                                                                                                                                                                                                                                                                                                       99US-0158566.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.00
Local 8; Conservative
                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                 Coulie P,
                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-572089/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200050589-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQC
                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                           18-FEB-2000;
                                                                                                                                                                                                                                                                                                        22-FEB-1999;
                                                                                                                                                                                                                                                                                                                      08-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-DEC-2000
                                                                                      02-JAN-2001
                                                                                                                                                                                                                                               31-AUG-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EphA3 gene
                                                                                                                                                                                                                                                                                                                                                                                 Chiari R,
                                                         AAB08703;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB22791;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
               AAB08703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB22791
                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                XX DX DX XXX
                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents an exemplary tumour associated peptide antigen. The specification describes a MAGE-3 tumour associated gene. Peptides (AAY01721-25) that bind human leuccoyte antigen (HLA) Class II molecules can be derived from the MAGE-3 protein. These peptides and autologous CD4+ cells that bind to a complex of MAGE-3 peptide and HLA Class II, are used to treat MAGE-3 related diseases, particularly cancers (e.g. melanoma, osteosarcoma, leukemia and
                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        various forms of carcinoma). The peptides are also used to produce specific antibodies. Detection of of the peptides, e.g. in binding assays, particularly with antibodies, is used for diagnosis of such
                                                                                                                                                                                                                                                                                                                    MAGE-3; tumour associated gene; human leucocyte antigen Class II; autologous CD4+ cell; MAGE-3 related disease; cancer; melanoma; osteosarcoma; leukemia; carcinoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Η
                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolated peptides that bind to human leucocyte antigen class
                                           Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82.5%; Score 47; DB 20; Length 9; 100.0%; Pred. No. 6.4e+05; ive 0; Mismatches 0; Indels
                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Heirman C;
Van Der Bruggen
                                                                                                                                                                                                                                                                                          Exemplary antigenic peptide derived from NY-ESO-1.
                                          DB 19; L
6.4e+05;
                                       82.5%; Score 47; DB 100.0%; Pred. No. 6.4 iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ur T, Chaux P, Corthals J,
Stroobant V, Thielemans K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 29; 88pp; English.
                                                                                                                                                                                                   AAY01762 standard; Peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (LUDW-) LUDWIG INST CANCER RES. (UYVR-) UNIV VRIJE BRUSSEL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98WO-US18601.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97US-0928615.
                                                                                                                                                                                                                                                            (first entry)
                                        Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-244031/20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 AA;
9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Boon-Falleur T,
                                                                                                  1 LLIMWITQC 8
                                                                                                                 1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                          WO9914326-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-SEP-1998;
                                                                                                                                                                                                                                                            25-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Luiten R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            molecules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
                                                                                                                                                                                                                              AAY01762;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diseases
                                                                                                                                                                       RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
```

ö

Gaps

ö

0; Indels

Length 9;

NY-ESO-1; epitope; CTL response; cytotoxic T lymphocyte; vaccine;

δλ Pp

```
Tymphocyte (CTL) response. The complex and/or vaccine can be used to treat a disease in a mammal, where the complex/vaccine elicits, induces or otherwise facilitates an immune response which inhibits, halts, delays or prevents the onset or progression of the disease condition. In particular, the disease is a condition resulting form a microbial infection or cancer. Microbial infections which may be treated using the immunogenic complex include human immunodeficiency virus (HIV), hepatitis B, hepatitis C, tuberculosis or a parasitic condition, and cancers which may be treated include melanoma, prostate cancer or breast cancer. The complexes and vaccines simultaneously co-deliver antigen and adjuvant to the same antigen presenting cell, which is often essential for induction of appropriate immune responses. Sequences AAB22790-B22791 represent exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                             Immunogenic complexes comprising negatively charged organic carrier adjuvants and positively charged antigens for use as vaccines against microbial infection and cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to a novel immunogenic complex comprising a charged organic carrier and a charged antigen which are electrostatically associated. The complex induces a cytotoxic T
immunogenic; adjuvant coadministration; microbial infection;
tuberculosis; HIV; hepatitis B virus; hepatitis C virus; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example 4; Fig 5c; 111pp; English.
                                                                                                                                                                           17-FEB-2000; 2000WO-AU00110.
                                                                                                                                                                                                                  99AU-0008735.
                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-571930/53.
                                                                                                                                                                                                                                                                           (CSLC-) CSL LTD.
                                                                                               WO200048630-A1
                                                                                                                                                                                                                  17-FEB-1999;
27-JUL-1999;
                                                           Unidentified.
                                                                                                                                      24 - AUG - 2000.
                                                                                                                                                                                                                                                                                                                  Cox JC,
```

0; Gaps Query Match

82.5%; Score 47; DB 21; Length 9;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 8; Conservative 0; Mismatches 0; Indels δ

ó:

1 LLMWITQC 8

q

Search completed: July 16, 2002, 08:01:30 Job time: 783 sec

```
Sequence 11, Appl
Sequence 43, Appl
Sequence 5, Appl 1
Sequence 5, Appl 1
Sequence 62, Appl 1
Sequence 67, Appl 1
Sequence 5, Appl 1
Sequence 5, Appl 1
Sequence 7, Appl 1
Sequence 7, Appl 1
Sequence 7, Appl 1
Sequence 64, Appl 1
                                   Sequence 123, 7
Sequence 123, 7
Sequence 95, A
Sequence 95, A
Sequence 95, A
Sequence 11, A
Sequence 5, AA
Sequence 5, AA
Sequence 5, AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMINO ACID SEQUENCES OF NY-ESO-1, WHICH BIND MHC CLASS I AND MHC CLASS II MOLECULES, AND
                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Knuth, Alexander; Jager, Elke; Chen, Yao,
Canlan, Matt; Gure, Ali, Old, Lloyd, Ritter, Gerd
TITLE OF INVENTION: ISOLATED PEPTIDES CORRESPONDING TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage COMPUTER: IBM
OPERATING SYSTEM: PC-DOS
SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
                                                                                                                           PCT-US99-06875-5
US-06-670-6458-1
US-06-670-6875-5
US-06-670-6875-5
US-09-386-911-42
US-09-386-911-42
US-09-386-911-8
US-09-440-621-2
US-09-440-621-2
US-09-440-621-2
US-09-62-401-44
US-09-674-058-3
US-09-67-0058-3
US-09-751-798-5
US-09-751-798-5
US-09-751-788-5
US-09-751-788-5
US-09-751-788-5
US-09-76-0058-13
US-09-529-2068-68
US-09-529-2068-68
US-09-529-2068-68
US-09-529-2068-68
US-09-529-2068-68
US-09-529-2068-68
          US-09-529-206A-72
US-09-529-206B-71
US-09-529-206B-72
US-09-833-039-123
US-09-529-206-95
US-09-529-206A-95
US-09-529-206B-95
US-09-676-005B-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -09-529-206A-94
-09-529-206B-94
-09-676-005B-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/09/165,546A FILING DATE: 02-Oct-1998 CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: FULBRIGHT & JAWORSKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/062,422
FILING DATE: April 17, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 7, Application US/09165546A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 666 Fifth Avenue CITY: New York City STATE: New York
NUMBER OF SEQUENCES:
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 1
US-09-165-546A-7
Appl
Appl
App
Appl
Appl
                                                                                                                   (without alignments)
47.636 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence Sequence Sequence Sequence Sequence Sequence Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                  July 16, 2002, 08:00:52; Search time 73.89 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                            Pending_Patents_AA_Main:*

1: /cgn2_6/ptodata/2/paa/PCTUS_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/DSO6_COMB.pep:*

4: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

7: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

8: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

9: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

10: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

11: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

12: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

13: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

14: /cgn2_6/ptodata/2/paa/USO8_COMB.pep:*

15: /cgn2_6/ptodata/2/paa/USO9_COMB.pep:*

16: /cgn2_6/ptodata/2/paa/USO9_COMB.pep:*

17: /cgn2_6/ptodata/2/paa/USO9_COMB.pep:*

18: /cgn2_6/ptodata/2/paa/USO9_COMB.pep:*

19: /cgn2_6/ptodata/2/paa/USO9_COMB.pep:*

10: /cgn2_6/ptodata/2/paa/USO9_COMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /ptodata/2/paa/US100_COMB.pep:*/ptodata/2/paa/US101_COMB.pep:*
         GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cgn2_6/ptodata/2/paa/US101_COMB.pep
/cgn2_6/ptodata/2/paa/US60_COMB.pep:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-165-546A-7
US-09-529-206-92
US-09-529-206A-92
US-09-529-206B-92
US-09-455A-123
US-09-529-206-71
US-09-529-206-72
                                                                                                                                                                                                                                                                                            hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                  3502263 seqs, 351980561 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                     Listing first 45 summaries

    protein search, using sw model

                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                             US-09-165-546A-7
57
                                                                                                                                                                                                                                                                                                                                                                       08
                                                                                                                                                                                          LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BB
                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match
Maximum Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0110
                                                                                                                                                                                                                                                                                                                           length: 0
length: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.
100.
100.
93.
93.
                                                                                                                                                                                                                                                                                               of
```

App] App]

43,

sed

Minimum DB Maximum DB

Database

number

Total

Searched:

Perfect score:

Title:

Sednence:

protein

ĕ

Run on:

Scoring table:

υ

Score

Result

53 53 53 53

1064597

ó

Gaps

; 0

```
Sequence 92, Application US/09529206B

GENERAL INFORMATION:
APPLICANT: Wang Rong, Fu

APPLICANT: Rosenberg, Steven
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: NOVEL Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: NOVEL Human Cancer Antigen NY ESO-1/CAG-3 and Gene
CURRENT APPLICATION NUMBER: 2006-06-13
PRIOR APPLICATION NUMBER: PCT/US98/19609
PRIOR FILING DATE: 1994-09-21
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 92
LENGTH: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 123. Application US/09409455A; Sequence 123. Application US/09409455A; GeneRaL INFORMATION:
APPLICANT: Tureci, Ozlem
APPLICANT: Sahin, Ugur
APPLICANT: Breundschuh, Michael
TILE REFERENCE: LUD 562.
FILE REFERENCE: LUD 562.
CURRENT APPLICATION NUMBER: US/09/409,455A
CURRENT FILING DATE: 1999-06-30
PRIOR APPLICATION NUMBER: US 09/344,040
PRIOR APPLICATION NUMBER: US 09/105,839
PRIOR APPLICATION NUMBER: US 09/105,839
PRIOR APPLICATION NUMBER: US 09/105,839
PRIOR PILING DATE: 1999-06-26
PRIOR PILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 129
                                                                                                                                                                                                                                            100.0%; Score 57; DB 19; Length 10; 100.0%; Pred. No. 0.099; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 57; DB 19; Length 10; 100.0%; Pred. No. 0.099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0: Mismatches
       PRIOR FILING DATE: 1997-10-08
                         NUMBER OF SEQ ID NOS: 127
SOFTWARRE: PatentIn Ver. 2.1
SEQ ID NO 92
LENGTH: 10
                                                                                                                                                                                                                                              Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Homo sapiens
US-09-529-206B-92
                                                                                                                                              ; ORGANISM: Homo sapiens
US-09-529-206A-92
                                                                                                                                                                                                                                                                                                                                                                        1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                               1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-409-455A-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-529-206B-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 123
LENGTH: 9
TYPE: PRT
                                                                                                                            TYPE: PRT
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 92, Application US/09529206
SEQUENCE INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Encoding Same FILE OF INVENTION: Encoding Same FILE REFERENCE: 20264269PC
CURRENT APPLICATION NUMBER: US/09/529,206
CURRENT APPLICATION NUMBER: US/09/529,206
PRIOR APPLICATION NUMBER: US/09/529,206
PRIOR APPLICATION NUMBER: US/09/529,206
PRIOR FILING DATE: 1997-10 08
PRIOR FILING DATE: 1997-10 08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 92, Application US/09529206A
GENERAL INFORMATION:
APPLICANT: Wang Rong, Fu
APPLICANT: Rosenberg, Steven
TITLE OF INVENTION: Encoding Same
FITLE OF INVENTION: Encoding Same
FITLE REFERENCE: 20264269US1
CURRENT APPLICATION NUMBER: US/09/529,206A
PRIOR APPLICATION NUMBER: OF/US98/19609
PRIOR PILING DATE: 1998-092.1
PRIOR PILING DATE: 10500/061,428
PRIOR APPLICATION NUMBER: US60/061,428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.0%; Score 57; DB 15; Length 10; Best Local Similarity 100.0%; Pred. No. 0.099; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 57; DB 19; Length 10; 100.0%; Pred. No. 0.099; Live 0; Mismatches 0; Indels
                                                                                        ATTORNEY/AGENT INFORMATION:

NAME: HANSON, NOTMAN D.

REGISTATION NUMBER: 30,946

REFERENCE/DOCKET NUMBER: LUD 5466.3

TELECOMMUNICATION INFORMATION:

TELEFAX: (212) 688-9200

TELEFAX: (212) 688-3884

INFORMATION FOR SEQ ID NO: 7:

SEQUENCE CHARACTERISTICS:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
APPLICATION NUMBER: US 08/752,182
                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
TOPOLOGY: Linear
SEQUENCE DESCRIPTION: SEQ ID NO: 7:
US-09-165-546A-7
                                                                            FILING DATE: 03-October-1996
                                                                                                                                                                                                                                                                                                                     LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens
US-09-529-206-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 3
US-09-529-206A-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-529-206-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Pa
SEQ ID NO 92
LENGTH: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δλ
```

ö

Gaps

ö

ò

```
Sequence 71, Application US/09529206A

Sequence 71, Application US/09529206A

GENERAL INFORMATION:
APPLICANT: Wang Rong, Fu

APPLICANT: Rosenberg, Steven
TITLE OF INVENTION: Brocding Same
FILE REFERENCE: 20264269US1
CURRENT APPLICATION NUMBER: US/09/529,206A
CURRENT FILING DATE: 1908-09-21
PRIOR FILING DATE: 1998-09-21
PRIOR FILING DATE: 1998-09-21
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 72, Application US/09529206A
GENERAL INFORMATION:
APPLICANT: Wang Rong, Fu
APPLICANT: Rosenberg, Steven
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Bencoding Same
TITLE OF INVENTION: Bencoding Same
CURRENT APPLICATION NUMBER: US/09/529,206A
CURRENT APPLICATION NUMBER: PCT/US98/19609
PRIOR PILING DATE: 1998-00-613
PRIOR FILING DATE: 1998-00-21
PRIOR FILING DATE: 1998-00-21
SPRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         %309-529-206B-71
; Sequence 71, Application US/09529206B
; GENERAL INFORMATION:
; APPLICANT: Wang Kong, Fu
; APPLICANT: Rosenberg, Steven
; TILE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 53; DB 19; 1
Pred. No. 3.2e+06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.0%; Score 53; DB 19;
100.0%; Pred. No. 3.2e+06;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93.0°,
100.0%; Pi.
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.0
"Local 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT; ORGANISM: Homo sapiens
US-09-529-206A-71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-529-206A-72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 LMWITQCFL 10
|||||||||
1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LLMWITOCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                Sequence 71, Application US/09529206
Sequence 71, Mapplication US/09529206
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene;
TITLE OF INVENTION: Encoding Same
TITLE OF INVENTION: 20264369C
CURRENT APPLICATION NUMBER: US/09/529,206
CURRENT PILING DATE: 2000-06-13
PRIOR PPLICATION NUMBER: US60/061,428
NUMBER OF SEQ ID NOS: 106
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 71
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene TITLE OF INVENTION: Encoding Same FILE REPERENCE: 20264269PC CURRENT APPLICATION NUMBER: US/09/529,206 CURRENT APPLICATION NUMBER: US/09/613
PRIOR APPLICATION NUMBER: US/09/061,428
PRIOR FILING DATE: 1997-10-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                 Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93.0%; Score 53; DB 19; Length 9; 100.0%; Pred. No. 3.2e+06; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 9;
                                                                             DB 18; L
3.2e+06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 19; L
. 3.2e+06;
                                                                           93.0%; Score 53; DB 100.0%; Pred. No. 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93.0%; SUL
100.0%; Pre
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 72, Application US/09529206
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.00
The Post Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match
Best Local Similarity 100..
                                                                             Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
; ORGANISM: Homo sapiens
US-09-409-455A-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
CORGANISM: Homo sapiens
US-09-529-206-71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
US-09-529-206-72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS:
SOFTWARE: Patentin V
                                                                                                                                                            2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 LMWITQCFL 10
                                                                                                                                                                                1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 LLAWITOCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMWITQCF 9
                                                                                                                                                                                                                                                           RESULT 6
US-09-529-206-71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 72
LENGTH: 9
```

ŏ

ô

ö

ò

```
2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 LLMWITQCF 10
                                                                                                                                                                                                                                                                                                                                                                            1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-529-206A-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-529-206-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 95
LENGIH: 10
                                                                                                                                                                                                                                                                                                                                                       δλ
                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pp
                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 72, Application US/09529206B
Sequence 72, Application US/09529206B
GENERAL INFORMATION:
APPLICANT: Wang Rong, Fu
APPLICANT: Rosenberg, Steven
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Brooding Same
FILE REFERENCE: 20264269US1
CURRENT APPLICATION NUMBER: PCT/US98/19609
PRIOR PILING DATE: 1998-09-21
PRIOR APPLICATION NUMBER: PCT/US98/19609
PRIOR PILING DATE: 1998-09-21
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 72
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Sahin, Journal APPLICANT: Sahin, Journal APPLICANT: Freundschuh, Michael TITLE OF INVENTION: Tumor Associated Peptide and Uses Thereof FILE REFRENCE: LUD 5622.1 CURRENT APPLICATION NUMBER: US/09/833,039 CURRENT FILING DATE: 2001-04-12 PRIOR APPLICATION NUMBER: US 09/409,455 PRIOR FILING DATE: 1999-09-30 PRIOR FILING DATE: US 09/344,040
                                                                                                                                                                                                                                                                                                                                                       Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 9;
                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 53; DB 19; Pred. No. 3.2e+06;
                                                                                                                                                                                                                                                                                                                                                   Score 53; DB 19;
Pred. No. 3.2e+06;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93.0%; bccc. No. ...
100.0%; Pred. No. ...
0; Mismatches
TITLE OF INVENTION: Encoding Same
FILE REPERBENCE: 2026426951
CURRENT APPLICATION NUMBER: US/09/529,206B
CURRENT FILING DATE: 2000-06-13
PRIOR APPLICATION NUMBER: PCT/US98/19609
PRIOR FILING DATE: 1996-09-21
PRIOR APPLICATION NUMBER: US60/061,428
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 123, Application US/09833039; GENERAL INFORMATION: APPLICANT: Tureci, Ozlem
                                                                                                                                                                                                                                                                                                                                               Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                  ; ORGANISM: Homo sapiens US-09-529-206B-71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapiens US-09-529-206B-72
                                                                                                                                                                                                                                                                                                                                                                                                                                 2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LLMWITQCF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-529-206B-72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-833-039-123
                                                                                                                                                                                                         SEQ ID NO 71
                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dρ
                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δλ
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 95. Application US/09529206A

GENERAL INFORMATION:
APPLICANT: Wang Knody.
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene
TITLE OF INVENTION: BOOGING Same
FILE REFERENCE: 20264269US1
CURRENT APPLICATION NUMBER: USO-05-13
PRIOR APPLICATION NUMBER: USO-06-13
PRIOR APPLICATION NUMBER: USO-00-21
PRIOR APPLICATION NUMBER: USO-00-21
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 127

SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as
APPLICANT: The Government of the United States of America as
TITLE OF INVENTION: Novel Human Cancer Antigen NY ESO-1/CAG-3 and Gene;
TITLE OF INVENTION: Encoding Same
FILE REFERENCE: 20264269PC
CURRENT APPLICATION NUMBER: 2000-06-13
PRIOR APPLICATION NUMBER: US60/061,428
PRIOR FILING DATE: 1997-10-08
NUMBER OF SEQ ID NOS: 106
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                       ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 19; Length 10; 0.41;
                                                                                                                                                                                                                                                                                                                          Length 9;
                                                                                                                                                                                                                                                                                                                                              3.2e+06;
                                                                                                                                                                                                                                                                                                                        93.0%; Score 53; DB 22; 100.0%; Pred. No. 3.2e+06
                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
; PRIOR FILING DATE: 1999-06-25
; PRIOR APPLICATION NUMBER: US 09/105,839
; PRIOR FILING DATE: 1999-06-26
; PRIOR FILING DATE: 1997-05-05
; NUMBER OF SEQ ID NOS: 129
; SEQ ID NO 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 53;
Pred. No.
                                                                                                                                                                                                                                                                                                                                  100.08; Pie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                        Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 93.0
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
US-09-833-039-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
CORGANISM: Homo sapiens
US-09-529-206-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
```

ö

Gaps

;

```
RESULT 15
US-09-529-206B-95
; Sequence 95, Application US/09529206B
; GENERAL INFORMATION:
; APPLICANT: Wang Rong, Fu
; TILLE OF INVENTION: Brocal Human Cancer Antigen NY ESO-1/CAG-3 and Gene
; TILLE OF INVENTION: Brocaling Same
; TILLE OF INVENTION: Brocaling Same
; FILE REFERENCE: 20264269US1
; CURRENT APPLICATION NUMBER: US/09/529, 206B
; CURRENT FILING DATE: 2000-06-13
; PRIOR APPLICATION NUMBER: PCT/US98/19609
; PRIOR FILING DATE: 1998-09-21
; PRIOR FILING DATE: 1998-09-21
; PRIOR FILING DATE: 1997-10-08
; NUMBER OF SEQ ID NOS: 127
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 95
                                                                   93.0%; Score 53; DB 19; Length 10; 100.0%; Pred. No. 0.41; Live 0; Mismatches 0; Indels
                                                                 Query Match
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                  1 LLMWITQCF 9
||||||||||
2 LLMWITQCF 10
US-09-529-206A-95
                                                                                                                                                                                                                  g
                                                                                                                                                                       ò
```

; Query Match
93.0%; Score 53; DB 19; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.41;
Matches 9; Conservative 0; Mismatches 0; Indels οy 임

TYPE: PRT ORGANISM: Homo sapiens US-09-529-206B-95

Search completed: July 16, 2002, 08:04:54 Job time: 242 sec

ó

Gaps

.

```
APPLICANT: Tureci, Ozlem
APPLICANT: Sahin, Ugur
APPLICANT: Sahin, Ugur
APPLICANT: Sahin, Ugur
APPLICANT: Ramensee, Hans Georg
APPLICANT: Ramensee, Hans Georg
APPLICANT: Stevanovic, Stefan
TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Deter
TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gen
FILE REFERENCE: LUD 5556.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 123, Application US/10177277 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity luv.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 LAWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: HOMO
US-09-344-040C-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 1
US-09-344-040C-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-177-277-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                     July 16, 2002, 08:00:02; Search time 16.99 Seconds (without alignments) 65.466 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Appl
Appl
App
Appl
Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 24, Appl
Sequence 131, App
Sequence 1, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Appli
Sequence 34, Appl
Sequence 197, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sednence Sed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pending_Patents_AA_New:*

1. /cgn2_6/ptodata/1/paa/USO6_NEW_COMB.pep:*

2. /cgn2_6/ptodata/1/paa/USO6_NEW_COMB.pep:*

3. /cgn2_6/ptodata/1/paa/USO8_NEW_COMB.pep:*

4. /cgn2_6/ptodata/1/paa/USO8_NEW_COMB.pep:*

5. /cgn2_6/ptodata/1/paa/USO9_NEW_COMB.pep:*

5. /cgn2_6/ptodata/1/paa/USO9_NEW_COMB.pep:*

6. /cgn2_6/ptodata/1/paa/USO9_NEW_COMB.pep:*

7. /cgn2_6/ptodata/1/paa/USO0_NEW_COMB.pep:*
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT-USG2-05748-22
US-09-374-040C-131
US-09-574-49B-34
US-10-17-937-197
US-10-17-937-196
PCT-USG2-05748-25
PCT-USG2-05748-25
PCT-USG2-05748-26
US-09-344-040C-122
US-09-344-040C-132
US-09-344-040C-132
US-10-177-277-122
US-10-177-277-122
US-10-177-277-122
US-10-177-277-122
US-10-177-277-122
US-10-177-277-122
US-10-177-277-122
US-10-177-277-122
US-10-177-277-129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-344-040C-123
US-10-177-277-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JS-09-621-630B-638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-105-299-3789
US-10-117-937-202
                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                             344541 segs, 111227333 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Listing first 45 summaries
                                                                                 - protein search, using sw model
                                                                                                                                                                                                                                                                                                                   Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0% Maximum Match 100%
                                                                                                                                                                                                           US-09-165-546A-7
57
1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                 length: 0
length: 10
                                                                                                                                                                                                                                                                                                 BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                      score:
                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM protein
                                                                                                                                                                                                                                                          Sedneuce:
                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š.
```

ö

Gaps

ö

Indels Length 9;

6

93.0%; Score 53; DB 5; L6 100.0%; Pred. No. 3.1e+05; Mismatches

93.0°; 100.0%; r.

```
APPLICANT: Tureci, Ozlem
APPLICANT: Sahin, Ugur
APPLICANT: Sahin, Ugur
APPLICANT: Sahin, Ugur
APPLICANT: Ramensee, Hans Georg
APPLICANT: Ramensee, Hans Georg
APPLICANT: Ramensee, Hans Georg
APPLICANT: Stevanovic, Stefan
TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Deter
TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gen
TITLE OF INVENTION: Gene, and Uses Thereof
TITLE OF INVENTION: 1999-66-25
CURRENT FILING DATE: 1998-66-25
PRIOR APPLICATION NUMBER: US 09/105,839
PRIOR FILING DATE: 1998-06-26
PRIOR FILING DATE: 1997-06-26
NUMBER OF SEQ ID NOS: 132
SEQ ID NO 123
                                                                                                                                                                                                                                                           9512, Ap
349, App
32674, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                       3020, Ap
5, Appli
618, App
                                                                                                                                             Sednence Sed
                                                               Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
US-10-117-937-199
US-10-083-894-9
US-09-722-250-259
US-09-722-250-374
US-09-722-250-374
US-09-722-250-374
US-09-722-250-374
US-09-692-714A-349
US-09-692-714A-349
US-09-696-751-349
US-09-696-751-349
US-09-722-250-287
US-09-722-250-287
US-09-722-250-287
US-09-722-334C-459
US-09-572-334C-459
US-09-572-65B-387
US-09-572-65B-387
US-09-572-65B-387
US-09-572-65B-387
US-09-572-65B-387
US-09-572-65B-3020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 123, Application US/09344040C; GENERAL INFORMATION:
```

```
APPLICANT: PYKETT, Mark J.

APPLICANT: PYKETT, Mark J.

APPLICANT: SCADDEN, David T.

APPLICANT: SCADDEN, David T.

APPLICANT: POZNANSY, Mark C.

TITLE OF INVENTION: LYMPHOLD TISSUE-SPECIFIC CELL PRODUCTION

TITLE OF INVENTION: EROM HEMATOPOIETIC PROGENITOR CELLS IN THREE-DIMENSIONAL

TITLE OF INVENTION: DBVICES

FILE REFERENCE: C1005/7012/KA/ERG

CURRENT APPLICATION NUMBER: US 60/107,972

PRIOR APPLICATION NUMBER: US 60/107,972

PRIOR APPLICATION NUMBER: PCT/US99/26795

PRIOR PILING DATE: 1999-11-12

PRIOR PLILNG DATE: 1999-11-12

PRIOR FILING DATE: 2000-05-18

NUMBER OF SEQ ID NOS: S8

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 34

LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/09670456A

Sequence 1, Application US/09670456A

SEQUENCE 1, Application US/09670456A

SERIEAL INFORMATION:

LUD-5668-PCT

APPLICANT: Gnjatic, Sacha
APPLICANT: Gnjatic, Lloyd J.

TITLE OF INVENTION: ISOLATED PEPTIDES WHICH BIND TO HLA-C MOLECULES AND USES TITLE OF INVENTION: THEREOF
FILE REFRENCE: LUD 5668

CURRENT APPLICATION NUMBER: US/09/670,456A

CURRENT FILING DATE: 2001-09-26

NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .,
                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                       Query Match 82.5%; Score 47; DB 5; Length 9; Best Local Similarity 100.0%; Pred. No. 3.1e+05; Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82.5%; Score 47; DB 5; Le
100.0%; Pred. No. 3.1e+05;
tive 0; Mismatches 0;
                                    08/851,130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-574-149B-34; Sequence 34, Application US/09574749B; GENERAL INFORMATION:
  PRIOR FILING DATE: 1998-06-26
PRIOR APPLICATION NUMBER: US 08,
PRIOR FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 132
SEQ ID NO 131
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: ROSENZWEIG, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                    ; ORGANISM: Homo sapiens
US-09-344-040C-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-670-456A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-670-456A-1
                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                             ٥y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Sahin, Ugur
APPLICANT: Sahin, Ugur
APPLICANT: Pfreundschuh, Michael
APPLICANT: Pfreundschuh, Michael
APPLICANT: Ramensee, Hans Georg
APPLICANT: Stevanovic, Stefan
TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Determin
TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene a
TITLE OF INVENTION: Gene, and Uses Thereof
FILE REFERENCE: LUD 5556.1
CURRENT APPLICATION NUMBER: US/09/344,040C
CURRENT FILING DATE: 1999-06-25
PRIOR APPLICATION NUMBER: US 09/105,839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 24, Application PC/TUS0205748

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Moriarty, Ann
APPLICANT: Leturcq, Didier
APPLICANT: Heiskala, Marja
APPLICANT: Heiskala, Marja
APPLICANT: Peterson, Michael
TITLE OF INVENTION: A CELL THERAPY METHOD FOR THE TREATMENT OF TUMORS
FILE REFERENCE: ORT-1557
CURRENT APPLICATION NUMBER: PCT/US02/05748
CURRENT APPLICATION NUMBER: PCT/US02/05748
CURRENT FILING DATE: 2002-02-19
NUMBER OF SEQ ID NOS: 42
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                     Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82.5%; Score 47; DB 1; Length 9; 100.0%; Pred. No. 3.1e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
93.0%; Score 53; DB 6; L
Best Local Similarity 100.0%; Pred. No. 3.1e+05;
Matches 9; Conservative 0; Mismatches 0;
CURRENT APPLICATION NUMBER: US/10/177,277

CURRENT FILING DATE: 2002-06-21

PRIOR APPLICATION NUMBER: US/09/344,040

PRIOR FILING DATE: 1999-06-25

PRIOR PILING DATE: 1998-06-26

PRIOR APPLICATION NUMBER: US 09/105,839

PRIOR PILING DATE: 1998-06-26

PRIOR FILING DATE: 1998-06-26

PRIOR FILING DATE: 1997-05-05

NUMBER OF SEQ ID NOS: 132

LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 131, Application US/09344040C GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Tureci, Ozlem
                                                                                                                                                                                                                                                                                  ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-177-277-123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens
PCT-US02-05748-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 LMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LMWITQCFL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11111111
2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 4
US-09-344-040C-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCT-US02-05748-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
```

us-09-165-546a-7.closed.rapn

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 25, Application PC/TUS0205748
; Sequence 25, Application PC/TUS0205748
; GENERAL INFORMATION:
    APPLICANT: Dedrarty, Ann
    APPLICANT: Letureq, Didier
; APPLICANT: Degraw, Juli
    APPLICANT: Peterson, Per
    APPLICANT: APPLICANT: APPLICANT: Jackson, Michael
    TITLE OF INVENTION: A CELL THERAPY METHOD FOR THE TREATMENT OF TUMORS
    FILE REFERENCE: OFT-1557
    CURRENT APPLICATION NUMBER: PCT/US02/05748
    CURRENT FILING DATE: 2002-02-19
    NUMBER OF SEQ ID NOS: 42
    SOFTWARE: PatentIn version 3.1
    SEQ ID NO 25
    LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                         Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.2%; Score 44; DB 6; Length 9; 100.0%; Pred. No. 3.1e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                         DB 6; L
3.1e+05;
                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: CTL IMMUON THERAPIES CORP.
APPLICANT: SIMARD, John, J.L.
APPLICANT: LIU, Liping
APPLICANT: LIU, Liping
APPLICANT: LII, Liping
APPLICATION NUMBER: US 60/282,211
PRIOR APPLICATION NUMBER: US 60/337,017
PRIOR FILING DATE: 2001-04-06
PRIOR APPLICATION NUMBER: US 60/337,017
PRIOR FILING DATE: 2001-11-07
PRIOR APPLICATION NUMBER: US 60/363,210
AND APPLICATION NUMBER: US 60/363,210
AND APPLICATION NUMBER: US 60/363,210
AND APPLICATION NUMBER: ESCOLUMBER: ESCO
      PRIOR FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 132
SEQ ID NO 131
LENGTH: 9
                                                                                                                                                                                                                                                                                      Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 77.2
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                        ; ORGANISM: Homo sapiens
US-10-177-277-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                 1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 WITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 WITQUEL 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-117-937-196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-117-937-196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 196
                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 131, Application US/1017277
GENERAL INFORMATION:
APPLICANT: Turecl, Jole
APPLICANT: Pfreundschuh, Michael
APPLICANT: Ramensee, Hans Georg
APPLICANT: Ramensee, Hans Georg
APPLICANT: Stevanovic, Stefan
ITILE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene at TILE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene at TILE OF INVENTION: Gene, and Uses Thereof
FILE REFERENCE: LUD 5556.1
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US/09/344,040
PRIOR PELING DATE: 1999-06-25
PRIOR PELING DATE: 1999-06-26
PRIOR FILING DATE: 1999-06-26
PRIOR FILING DATE: 1999-06-26
PRIOR FILING DATE: 1999-06-26
PRIOR PILING DATE: 1999-06-26
                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                     82.5%; Score 47; DB 5; Length 9; 100.0%; Pred. No. 3.1e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                82.5%; Score 47; DB 6; Length 9; 100.0%; Pred. No. 3.1e+05; live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SIMARD, John, J.L.
APPLICANT: DIAMOND, David, C.
APPLICANT: LIU, Liping
APPLICANT: LIU, Liping
TITLE ON INVENTION: EPITOPE SEQUENCES
FILE REFERENCE: CTLIMM.027A
CURRENT APPLICATION NUMBER: US/10/117,937
CURRENT APPLICATION NUMBER: US 60/282,211
PRIOR APPLICATION NUMBER: US 60/282,211
PRIOR FILING DATE: 2001-04-06
FRIOR FILING DATE: 2001-01-07
PRIOR FILING DATE: 2001-01-07
PRIOR FILING DATE: 2001-01-07
PRIOR FILING DATE: 2002-03-07
NUMBER OF SEQ ID NOS: 602
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 197
                                                                                    ; OTHER INFORMATION: Homo Sapiens source US-09-574-749B-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 197, Application US/10117937
GENERAL INFORMATION:
APPLICANT: CTL IMMUNO THERAPIES CORP.
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.0
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                 2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1111111
2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-117-937-197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-117-937-197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-177-277-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 9
                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                           q
```

ò q

```
US-09-344-040C-132

Sequence 132, Application US/09344040C

GENERAL INFORMATION:

APPLICANT: Tureci, Ozlem

APPLICANT: Sahin, Ugur

APPLICANT: Sahin, Ugur

APPLICANT: Stevanovic, Stefan

TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Deter

TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gen

TITLE OF INVENTION: UD-5556.1

FILE REFERENCE: LUD 5556.1

CURRENT APPLICATION NUMBER: US/09/344,040C

CURRENT FILING DATE: 1999-06-25

PRIOR APPLICATION NUMBER: US 09/105,839

PRIOR APPLICATION NUMBER: US 08/851,130

PRIOR FILING DATE: 1998-06-26

PRIOR FILING DATE: 1999-06-26

PRIOR FILING DATE: 1999-06-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 35, Application US/09574749B

GENERAL INFORMATION:
APPLICANT: ROSENWENEIG, Michael
APPLICANT: ROSENWENEIG, Michael
APPLICANT: PYKETT, Mark J.
APPLICANT: POWENTON: LYMPHOID TISSUE-SPECIFIC CELL PRODUCTION
TITLE OF INVENTION: LYMPHOID TISSUE-SPECIFIC CELL PRODUCTION
TITLE OF INVENTION: BEVICES
TITLE OF INVENTION: DEVICES
TITLE OF INVENTION: DEVICES
TITLE OF INVENTION: BEVICES
TITLE OF INVENTION: BEVICES
CURRENT APPLICATION NUMBER: US 60/107,972
PRIOR APPLICATION NUMBER: US 60/107,972
PRIOR PILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 1999-11-12
PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ. ID NOS: 58
SOFFWARE: FastSEQ for Windows Version 3.0
                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , DB 5; Le.,
n. 3.1e+05;
0; Indels
    Length 9;
57.9%; Score 33; DB 5; Le
100.0%; Pred. No. 3.1e+05;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        57.9%; Scc...
100.0%; Pred. No. ...
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE: OTHER INFORMATION: Homo Sapiens source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 57.9
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Homo sapiens
         Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                               1 LLMWIT 6
                                                                                                                                                                                                                                                          ||||||
4 LLMWIT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-344-040C-132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-574-749B-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    us-vy-144-vquu-124
Sequence 122, Application US/09344040C
Sequence 122, Application US/09344040C
SENERAL INFORMATION:
APPLICANT: Tureci, Ozlem
APPLICANT: Sahin, Ugur
THE OF INVENTION: Steran
TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Determin
TITLE OF INVENTION: Servicesion of an SSX Gene, Peptides Derived From Said SSX Gene
TITLE OF INVENTION: Gene, and Uses Thereof
TITLE OF INVENTION UMBER: US/09/344,040C
CURRENT PILING DATE: 1998-06-25
PRIOR FILING DATE: 1998-06-26
PRIOR PELING DATE: 1998-06-26
PRIOR PELING DATE: 1998-06-26
PRIOR PRIOR PELING DATE: 1998-06-26
NUMBER OF SEQ ID NOS: 132
SEQUENCE OF SEQ ID NOS: 132
SECOND DATE: 1997-05-05
SECOND DATE: 1997-05-05
SECOND DATE: DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT-USO2-05748-26
| Sequence 26, Application PC/TUSO205748
| Sequence 26, Application PC/TUSO205748
| GENERAL INFORMATION:
| APPLICANT: Moriarty, Ann
| APPLICANT: Detraw, Juli |
| APPLICANT: Detraw, Juli |
| APPLICANT: Detraw, Juli |
| APPLICANT: Peterson, Per |
| APPLICANT: Jackson, Michael |
| TITLE REPERBNES: OF SOP-1557 |
| CURRENT FILING DATE: 2002-02-19 |
| SOFTWARE: PatentIn version 3.1 |
| SSOFTWARE: Paten
                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 57.9%; Score 33; DB 1; Length 9; Best Local Similarity 100.0%; Pred. No. 3.1e+05; Matches 6; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                      66.7%; Score 38; DB 1; Length 9; 100.0%; Pred. No. 3.1e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 7; Conservative
; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US02-05748-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US02-05748-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT; ORGANISM: Homo sapiens US-09-344-040C-122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1111111
2 LLMWITQ 8
                                                                                                                                                                                                                                                                                                                                                                                                                                 1 LLMWITQ 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11||||
4 LLMWIT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 12
US-09-344-040C-122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Op
                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

```
Sequence 122, Application US/1017277

Sequence 122, Application US/1017277

GENERAL INFORMATION:

APPLICANT: Tureci, Ozlem

APPLICANT: Sahin, Ugur

APPLICANT: Ramensee, Hans Georg

APPLICANT: Ramensee, Hans Georg

APPLICANT: Stevanovic, Stefan

TITLE OF INVENTION: Method for Determining Presence of Cancer In a Sample By Determin

TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene

TITLE OF INVENTION: Expression of an SSX Gene, Peptides Derived From Said SSX Gene

TITLE OF INVENTION NUMBER: US/10/177, 277

CURRENT APPLICATION NUMBER: US/06/21

PRIOR FILING DATE: 1999-06-25

PRIOR FILING DATE: 1999-06-26

PRIOR FILING DATE: 1998-06-26

PRIOR FILING DATE: 1998-06-26

PRIOR FILING DATE: 1998-06-26

PRIOR FILING DATE: 1998-06-26

PRIOR FILING DATE: 1997-05-05

NUMBER OF SEQ ID NOS: 132

LENGTH: 9

TURECH DATE: 1998-06-26

PRIOR PRI
                                                                                                                                                                                                                 ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ő
                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                    57.9%; Score 33; DB 5; Length 9; 100.0%; Pred. No. 3.1e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   57.9%; Score 33; DB 6; Length 9; 100.0%; Pred. No. 3.1e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Search completed: July 16, 2002, 08:03:20 Job time: 198 sec
                                                                                                                    Query Match 57.9
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 57.9
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-177-277-122
                                                                                                                                                                                                                                                                                             1 LLMWIT 6
. ||||||
4 LLMWIT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LLMWIT 6
US-09-574-749B-35
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ολ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pp
```

score:

Perfect

Sequence:

OM protein

Run on:

Scoring table:

Database

Score

8

Result

Appl Appli

Sequence 15,

Sequence

Sequence 15, Sequence 15,

Sequence Sequence

> -07-620-426B-2 US-07-824-247-2 US-08-470-204A-2

Sequence Sequence Sequence

Ç

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Stockert, Elisabeth; Jager, Elke;
APPLICANT: Stockert, Elisabeth; Jager, Elke;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew; Knuth, Alexander;
APPLICANT: Old, Lloyd J.
TITLE OF INVENTION: ANTIBODIES WHICH BIND TO NY ESO-1
TITLE OF INVENTION: CANCER ASSOCIATED PROTEINS, USES THEREOF, TRUNCATED
TITLE OF INVENTION: FORMS OF NY ESO-1, AND HLA BINDING PEPTIDES DERIVED
TITLE OF INVENTION: THEREFROM
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 47; DB 4; Le
Pred. No. 1.7e+05;
0; Mismatches 0;
                                                                                  FILING DATE: OCTOBER 2, 1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/062,422
FILING DATE: April 17, 1998
PRIOR APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-OCTOBER-1996
ATTORNEY/AGENT INFORMATION:
NAME: HANSON, NO. 6251603man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: 105
REGISTRATION NUMBER: 105
REGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/752,182
FILING DATE: 03-October 1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LUD 5466.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/062,422
   CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/165,546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                82.5%,
100.0%; Pre-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-062-422-5; Sequence 5, Application US/09062422; Patent No. 6252052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.۰
است 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTAL.
ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 9 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TOPOLOGY: linear
US-09-359-503-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New York
: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: Ne COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Óγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              to NY-
                                                                                                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 43, Application US/09183931C

Batent No. 6210886

GENERAL INFORMATION:
APPLICANT: Van Baren, Nicolas
APPLICANT: Brasseur, Francis
APPLICANT: Brasseur, Francis
TITLE OF INVENTION: THEOFF DIAGNOSING LEUKEMIA BY DETERMINING
TITLE OF INVENTION: TUMOR REJECTION ANTIGEN PRECURSORS
FILE REFERENCE: LUD 5227.1-JEL/ES
CURRENT APPLICATION NUMBER: US/09/183,931C
CURRENT FILING DATE: 2000-02-28
BARLIER APPLICATION NUMBER: US 09/018,422
EARLIER APPLICATION NUMBER: US 09/018,422
NUMBER OF SEQ ID NOS: 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/09359503
Patent No. 6251603
GENERAL INFORMATION:
APPLICANT: Jager, Elke; Stockert, Elisabeth; Old, Lloyd J;
APPLICANT: Knuth, alexander
TITLE OF INVENTION: Method for Determining Status of A
TITLE OF INVENTION: a Patient Sample
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                       .;
0
                                                                                                              100.0%; Score 57; DB 4; Length 10; 100.0%; Pred. No. 0.00099; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82.5%; Score 47; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fulbright & Jaworski, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPEFFECT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/359,503
FILING DATE: July 23, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               666 Fifth Avenue
                                                                                                                                                 Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 10103
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: New York City STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens
; TOPOLOGY: linear
US-09-359-503-7
                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                             1 LLMWITQCFL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; OTHER INFORMATION:
US-09-183-931-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
US-09-183-931-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-359-503-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 43
LENGTH: 9
                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
```

us-09-165-546a-7.closed.rai

```
APPLICANT: Varioume, Valrie
APPLICANT: Stroobant, Vincent
APPLICANT: Stroobant, Vincent
APPLICANT: Stroobant, Thierry
APPLICANT: Boon-Falleur, Thierry
APPLICANT: Thielemans, Kris
APPLICANT: Corthals, Jurgen
TITLE OF INVENTION: WAGE-3 PEPTIDES PRESENTED BY HLA CLASS II MOLECULES
FILE REPERENCE: L0461/7052
CURRENT APPLICATION NUMBER: US/09/166,448
CURRENT APPLICATION NUMBER: US/09/166,448
SURRENT APLICATION NUMBER: US/09/166,448
SURBENT FILING DATE: 1998-10-05
NUMBER OF SEQ ID NOS: 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Jager, Elke; Stockert, Elisabeth; Old, Lloyd J;
APPLICANT: Muth, alexander
TITLE OF INVENTION: Method for Determining Status of A
TITLE OF INVENTION: Cancerous Condition By Determining Antibodies
TITLE OF INVENTION: a Patient Sample
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fulbright & Jaworski, L.L.P.
STREET: 666 Fifth Avenue
CITY: New York
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 47; DB 4; Lengtn 5,
Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 10103
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
COMPUTER: IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/359,503
FILING DATE: July 23, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION DATE: July 23, 1000 CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/165,546
TITING DATE: OCCUBER 2, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: October 2, 1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/062,422
FILING DATE: April 17, 1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
                                                                                                                               ; Sequence 80, Application US/09166448
; Patent No. 6291430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-359-503-14; Sequence 14, Application US/09359503; Patent No. 6251603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82.5%; Scc.
100.0%; Pre
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                          APPLICANT: Chaux, Pascal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-166-448-80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                ; GENERAL INFORMATION:
                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11111111
2 LLMWITQC 9
2 LLMWITOC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Glue, Ali; Old, Lloyd J.; Jager, Elke;
APPLICANT: Alexander, Knuth; Drijfhout, Jan W.
TITLE OF LINVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: ITSELF, AND USES THEREOF
NUMBER OF SEQUENCES:
ADDRESSEE: Fulbright & Jaworski, L.L.P.
STREET: 666 Fifth Avenue
CITY: New York City
STATE: New York
COUNTRY: USA
ZIP: 10103
ZIP: 10103
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                Score 47; DB 4; Lengtn >; Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82.5%; Score 47; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                  82.5%; Scor.
100.0%; Pred. No. ...
                REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5466.3
TELECOMMUNICATION INPORMATION:
TELEPHONE: (212) 688-5200
TELEFAX: (212) 838-3884
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/937,263B
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,182
FILING DATE: October 3, 1996
ATTORNEY/AGENT INFORMATION:
NAME: Sinn, Eric, Patent Agent
REGISTRATION NUMBER: 40,177
REFERENCE/DOCKET NUMBER: LUD 5466.1
TELECOMMUNICATION INFORMATION:
Hanson, No. 6252052man D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5, Application US/08937263B Patent No. 6274145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                  Query Match 82.5
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                        TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                11111111
2 LLMWITQC 9
                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 LLMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY:
US-08-937-263B-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-937-263B-5
                                                                                                                                                                                                                                               US-09-062-422-5
```

ö

ö

```
Sequence 7, Application US/08937263B
Patent No. 627445
GENERAL INFORMATION:
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Gure, Ali; Old, Lloyd J.; Jager, Elke;
APPLICANT: Gure, Ali; Old, Lloyd J.; Jager, Elke;
APPLICANT: Alexander, Knuth; Drijfhout, Jan W.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: ITSELF, AND USES THEREOF
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                       57.9%; Score 33; DB 4; Length 6; 100.0%; Pred. No. 1.7e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 33; DB 4; LA Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57.9%; Scc...
100.0%; Pred. No....
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Fulbright & Jaworski, L.L.P. STREET: 666 Fifth Avenue CITY: New York City STATE: New York City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/937,263B
FILING DATE: September 15, 1997
PRIOR APPLICATION UNBER: 08/725,182
FILING DATE: October 3, 1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Sinn, Eric, Patent Agent
REGISTRATION NUMBER: 40.177
REFERENCE/DOCKET NUMBER: LUD 5466.1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-183-931-44
; Sequence 44, Application US/09183931C
; Patent No. 6210886
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEO ID NO. 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 57.9°
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6amino acids
                   amino acid
                                     ; TOPOLOGY: linear
US-09-062-422-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid
                                                                                                                                           Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                             1 LLMWIT 6
                                                                                                                                                                                                                                        1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: US
ZIP: 10103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                   RESULT 9
US-08-937-263B-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LLMWIT
                                                                                                                           Query Match
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Stockert, Elisabeth; Jager, Elke;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew; Knuth, Alexander;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew; Knuth, Alexander;
APPLICANT: Old, Lloyd J.
TITLE OF INVENTION: ANTIBOTES WHICH BIND TO NY-ESO-1
TITLE OF INVENTION: CANCER ASSOCIATED PROTEINS, USES THEREOF, TRUNCATED TITLE OF INVENTION: THEREFROM
TITLE OF INVENTION: THEREFROM
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Felle & Lynch
STREET: 805 Third Avenue
CITY: New York City
                                                                                                                                                                                                                                                                                                                                                                                                                      Length 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY.

ZIP: 10022
COMPUTER REABABLE FORM:
MEDIUM TYBE: Diskette, 3.5 inch, 144 kb storage
COMPUTER: IBM
                                                                                                                                                                                                                                                                                                                                                                                                                    Score 33; DB 4; L
Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Pred. No. 1., ive 0; Mismatches
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-October-1996
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6251603man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5466.1
TELEPROCE: (212) 318-3000
TELEPROCE: (212) 752-5958
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 6 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5466.3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
TELEFAX: (212) 888-3884
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE SCHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-October-1996
ATTORNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/062,422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Hanson, No. 6252052man D. REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-062-422-7; Sequence 7, Application US/09062422; Patent No. 6252052
                                                                                                                                                                                                                                                                                                                                                                                                                      57.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 57.9
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 6 amino acids
                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ||||||
| LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                    US-09-359-503-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Óλ
```

ó;

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GEBRERAL INFORMATION:

APPLICANT: Stockert, Elisabeth; Jager, Elke;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew; Knuth, Alexander;
TITLE OF INVENTION: ANTIBODIES WHICH BIND TO NY-ESO-1
TITLE OF INVENTION: THEREFROM
NUMBER OF SEQUENCES:
CORRESPONDENCES:
ADDRESSE: Felfe & Lynch
                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                    57.9%; Score 33; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         57.9%; Score 33; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
COMPUTER: IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/937,263
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/752,182
FILING DATE: 03-October-1996
ATTORNEY/AGENT INFORMATION:
NAME: HANSON, NO: 6252052man D.
REGISTRATION.NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LUD 5466.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Wordberfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/062,422
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 6, Application US/09062422; Patent No. 6252052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: LUI
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
TELEFAX: (212) 838-3884
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO: 6: SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York City
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                    Query Match 57.9
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 9 amino acids
                                                                                                                 TYPE: amino acid;
TOPOLOGY: linear
US-09-359-503-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY: linear
US-09-062-422-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                  1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                           1 | | | | | | 4 | ELMWIT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-062-422-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
                                                                                                                                                                                                                                                                                                                                  δλ
                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         to NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Blke: Stockert, Elisabeth; Old, Lloyd J;
APPLICANT: Knuth, alexander
TITLE OF INVENTION: Method for Determining Status of A
TITLE OF INVENTION: Method for Determining Antibodies
TITLE OF INVENTION: a Patient Sample
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSE: Fulbright & Jaworski, L.L.P.
CITY: New York City
STRET: 666 Fifth Avenue
CITY: New York
COUNTRY: USA
ZIP: 10103
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                APPLICANT: Brasseur, Francis
APPLICANT: Brasseur, Thierry
TITLE OF INVENTION: METHOD FOR DIACNOSING LEUKEMIA BY DETERMINING
TITLE OF INVENTION: TUMOR REJECTION ANTIGEN PRECURSORS
FILE REFERENCE: LUD 5527.1-JEL/ES
CURRENT APPLICATION NUMBER: US/09/183,931C
CURRENT FILING DATE: 2000-02-28
EARLIER APPLICATION NUMBER: US 09/018,422
EARLIER FILING DATE: 1998 - 02 - 04
NUMBER OF SEQ ID NOS: 44
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  57.9%; Score 33; DB 4; Length 9; 100.0%; Pred. No. 1.7e+05; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/359,503
FILING DATE: July 23, 1999
CLASSIFICATION: DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/165,546
FILING DATE: October 2, 1998
PROR APPLICATION NUMBER: 09/062,422
FILING DATE: APPLII 17, 1998
PRIOR APPLICATION NUMBER: 08/937,263
FILING DATE: SEPTEMBER: 19,1997
PRIOR APPLICATION NUMBER: 15, 1997
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/752,182 FILING DATE: 03-October-1996 ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6251603man D. RECISTRATION NUMBER: 30,946 REFERENCE/DOCKET NUMBER: LUD 5466.1 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 6, Application US/09359503 Patent No. 6251603
  APPLICANT: Van Baren, Nicolas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION:
US-09-183-931-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LLMWIT 6
||||||
4 LLMWIT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-359-503-6
                                                                                                                                                                                                                                                                                                                                                      FEATURE:
```

δ В ö

```
APPLICANT: Townsend, Robert M.
APPLICANT: Townsend, Robert
TITLE OF INVENTION: Peptide Minics of the Cytokine Receptor Common TITLE OF INVENTION: Gamma Chain and Methods and Compositions for TITLE OF INVENTION: Making and Using the Same CORRESPONDENCES: 37
CORRESPONDENCE MONGESS:
ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 6346602ris LLP STREET: One Liberty Place, 46th Floor
CITY: Philadelphia STAFE Pennsylvania
COUNTRY: USA
ZIP: 19103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;;
0
                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 27; DB 4; Length 8; Pred. No. 1.7e+05; 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                 Length 9;
                                                                                                                                                                                                                                                                                                                                                    Score 33; DB 4; LA Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                              57.9%; Sco...
100.0%; Pred. No. ...
0; Mismatches
CURRENT APPLICATION NUMBER: US/09/166,448
CURRENT FILING DATE: 1998-10-05
NUMBER OF SEQ ID NOS: 81
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 07-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: DeLuca, Mark
REGISTRATION NUMBER: 33,229
REFERENCE/POCKET NUMBER: TJU-2291
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Wordperfect V. 8
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/020,065A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/036,941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 24, Application US/09020065A Patent No. 6346602 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: Windows NT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO: 24:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              47.48;
57.18;
                                                                                                                                                                                                                                                                                                                                              Query Match 57.9°
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match
Best Local Similarity 57.13
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 530
                                                                                                                                                                                     TYPE: PRT
CORGANISM: Homo sapiens
US-09-166-448-81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 LMWITQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ::111
2 LQYLTQC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-020-065A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-020-065A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Chen, Yao-Tseng; Scanlan, Matthew;
APPLICANT: Alexander, Knuth, Drijfhout, Jan W.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: ITSELF, AND USES THEREOF
ITTLE OF INVENTION: ITSELF, AND USES THEREOF
CORRESPONDENCE ADDRESS:
ADDRESSES: ADDRESS:
ADDRESSES: ADDRESS:
ADDRESSES: ADDRESSES:
ADDRESSES: ADDRESSES: ADDRESSES:
ADDRESSES: ADDRESSES: ADDRESSES:
ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Chaux, Pascal
APPLICANT: Vartomme, Valrie
APPLICANT: Stroobart, Vincent
APPLICANT: Stroobart, Vincent
APPLICANT: Boon-Falleur, Thierry
APPLICANT: wan der Bruggen, Pierre
APPLICANT: van der Bruggen, Pierre
APPLICANT: Carthals, Jurgen
TITLE OF INVENTION: MAGE-3 PEPTIDES PRESENTED BY HLA CLASS II MOLECULES
FILE REFERENCE: L0461/7052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4; Le
. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       57.9%; Score 33; DB 100.0%; Pred. No. 1.7 tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPOUGER: 150
COMPOUGER
OPERATING SYSTEM: PC-DOS
SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/937,263B
FILING DATE: September 15, 1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,182
FILING DATE: October 3, 1996
ATTORNEY/AGENT INFORMATION:
NAME: Sinn, Eric, Patent Agent
REGISTRATION NUMBER: 40,177
REGISTRATION NUMBER: 40,177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: LUD 5466.1
                                                                                                                                                                                                                  Sequence 6, Application US/08937263B Patent No. 6274145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 81, Application US/09166448 Patent No. 6291430 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (212) 318-3000
TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO: 6: SEGUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 57.9
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear
US-08-937-263B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM
   1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LLMWIT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 LLMWIT 9
                                                               4 LLMWIT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10103
                                                                                                                                                  RESULT 13
US-08-937-263B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-166-448-81
                                                         Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏλ
```

ö

7

Search completed: July 16, 2002, 08:02:06 Job time: 324 sec